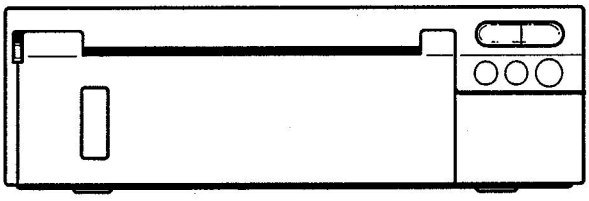
1996

MITSUBISHI

Service Manual

VIDEO COPY PROCESSOR



MODEL

P500W
P500E

This product is not for medical diagnostic purpose, just for reference purpose.

CAUTION Before servicing this chassis, it is important that the serviceman reads "SAFETY PRECAUTIONS" and "PRODUCTION SAFETY NOTICE" in this service manual.

SPECIFICATIONS

- **Power Input** : AC 120V 50/60 Hz [W], AC 220 ~ 240V 50 Hz [W, E]
- **Power Consumpion** : 1.5A [When using AC 120V] 0.8A [When using AC 220-240V]
- **Print Quality**

NTSC Under Scan	Standard size	Harf size
Normal print	: 1,278 dots(H)X1,000 lines(V)	639 dots(H)X500 lines(V)
Side print	: 1,278 dots(H)X1,000 lines(V)	639 dots(H)X500 lines(V)
PAL Under Scan	**Standard size**	**Harf size**
Normal print	: 1,278 dots(H)X1,200 lines(V)	639 dots(H)X600 lines(V)
Side print	: 1,278 dots(H)X1,200 lines(V)	639 dots(H)X600 lines(V)

- **Printing Time**

NTSC Under Scan	Standard size	Harf size
Normal print	: 9.4 sec/sheet	4.7 sec/sheet
Side print	: 12.0 sec/sheet	6.0 sec/sheet
PAL Under Scan	**Standard size**	**Harf size**
Normal print	: 11.3 sec/sheet	5.7 sec/sheet
Side print	: 12.0 sec/sheet	6.0 sec/sheet

- **Gradations** : 256 gradations
- **Scanning Frequency** : Horizontal 15.734kHz (NTSC) 15.625kHz (PAL)
  Vertical 60Hz (NTSC) 50Hz (PAL)
- **Input terminal** : Video signal (BNC type connector)
- **Output termimal** : Video signal (BNC type connector)
- **Print size**

NTSC Under Scan	Standard size	Harf size
Normal print	: 200 × 150mm (7.9" × 5.9")	100 × 75mm (3.9" × 3.0")
Side print	: 208 × 156mm (8.2" × 6.1")	104 × 78mm (4.1" × 3.1")
PAL Under Scan	**Standard size**	**Harf size**
Normal print	: 200 × 150mm (7.9" × 5.9")	100 ×75mm (3.9" × 3.0")
Side print	: 250× 188mm (9.8" × 7.4")	125 × 94mm (4.9" × 3.7")

- **Cabinet Dimensions** : 370(W)×120(H)×330(D) mm (14.6"(W)×4.7"(H)×13.0"(D))
- **Weight (Approx)** : 9.0 kg (19.9 lbs)
- **Operating Conditions** : Temperature 5~40°C (41~104°F) Humidity 35~80%RH (no dewing)

● **Design and specifications are subject to change without notice.**

MITSUBISHI ELECTRIC

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SAFETY PRECAUTIONS

NOTICE : Observe all cautions and safety notes located inside the cabinet and on the chassis.

LEAKAGE CURRENT CHECK

Before returning the printer to the customer, it is recommended that leakage current be measured according to the following methods.

1. Cold check

With the AC plug removed from the 120V/220-240V AC source, place a jumper across the two AC plug prongs. Turn the printer AC switch on. Using an ohm-meter, connect one lead to the AC plug and touch the other lead to each exposed metal part (screwheads, metal overlays, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistance reading of 1 meg ohm. Any resistance below this value indicates an abnormality which requires corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

2. Hot Check

Use the circuit in Fig. 1 to perform this test.

(1) With switch S1 open, connect the printer to the measuring circuit. Immediately after connection, measure the leakage current using both positions of switch S2, and with the switching devices in the printer in all of their operating positions.

(2) Switch S1 is then closed, energizing the printer. Immediately after closing the switch, measure the leakage current using both positions of switch S2, and with the switching devices in the printer in all of their operating positions. Current measurements of items (1) and (2) are to be repeated after the printer has reached thermal stabilization. The leakage current shall not be more than 0.5 milliampere.

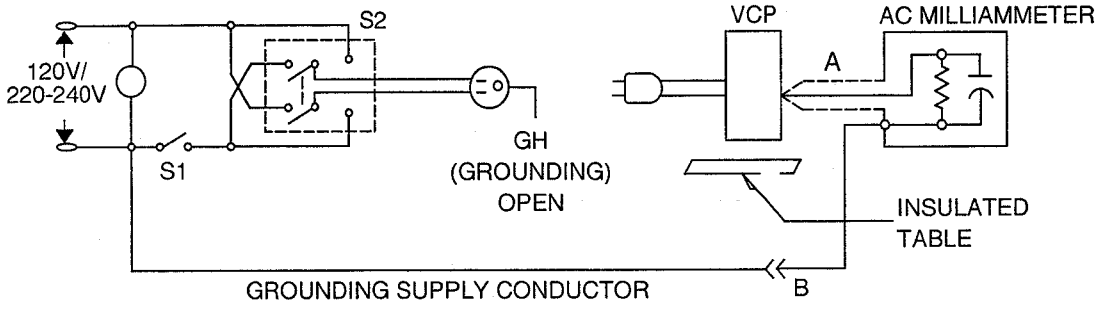
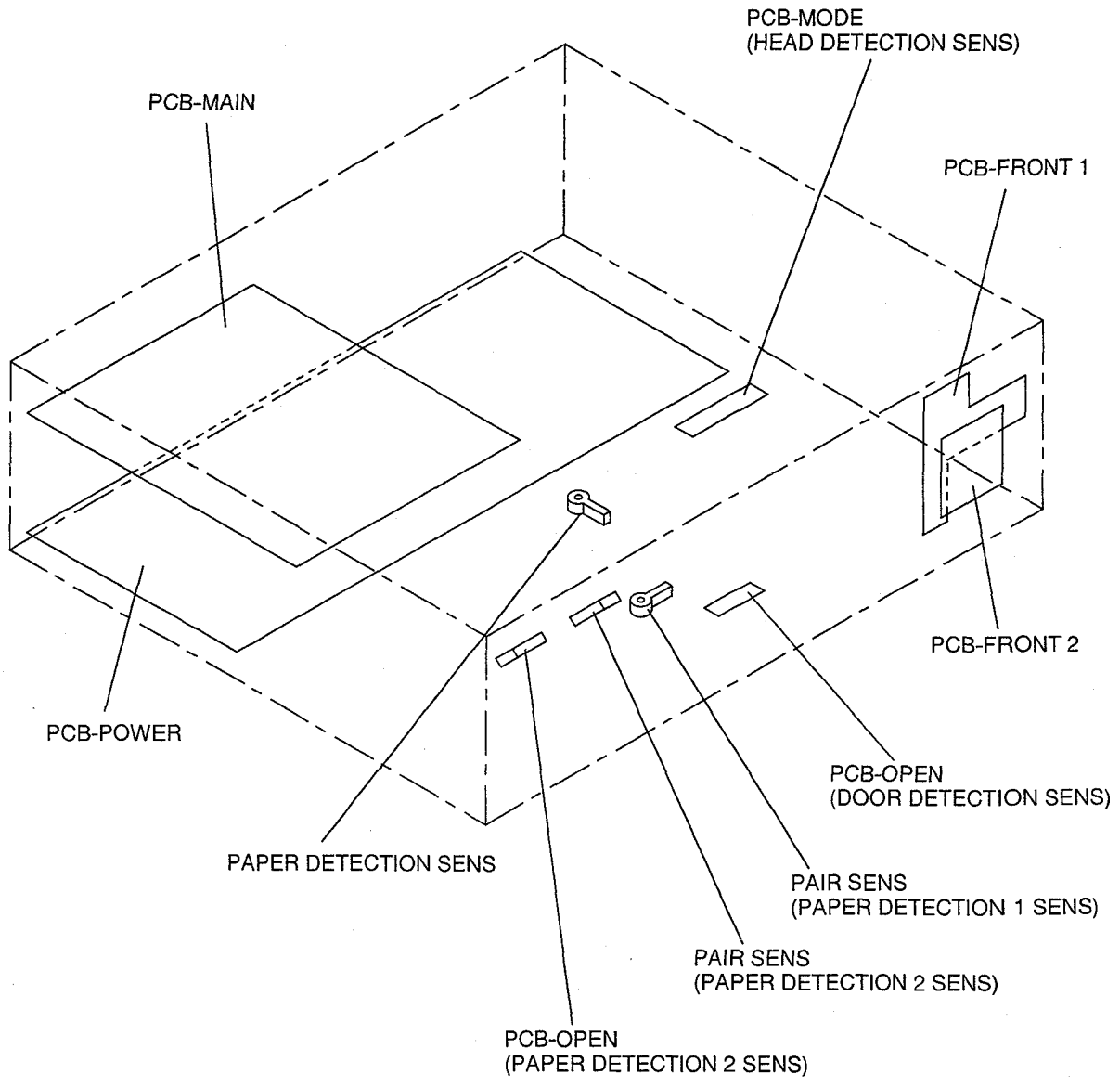


Fig. 1

PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the video copy processor have special safety related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, etc. Replacement parts which have these special safety characteristics are identified in this service manual. Electrical components having such features are identified by shading on the schematic diagram and the parts list of this service manual, and by the supplementary sheet for this chassis to be issued subsequently. Therefore replacements for any safety parts should be identical in value and characteristics.

LOCATION OF PRINTED CIRCUIT BOARDEDS



DISASSEMBLY

PLATEN ROLLER REMOVAL

1. Remove the TOP PANEL and FRONT PANEL.
2. Raise the OPEN LEVER and open the PAPER HOLDER ASSY.
3. Remove one screw (ⓐ) securing the GEAR COVER shown in Fig. 1-1 to remove the GEAR COVER.
4. Loosen one hex screw (ⓑ) securing the PLATEN GEAR shown in Fig. 1-1 using the 1.5mm hex wrench to remove the PLATEN GEAR.
   Note: When mounting the PLATEN GEAR, match the hex screw against the D-cut face as shown in Fig. 1-2 with 0.2mm feeler gauges inserted between the PLATEN GEAR and the PLATEN BUSH. (Remove the feeler gauges after mounting the PLATEN GEAR.)
5. Remove one BUSH PLATEN (ⓒ) shown in Fig. 1-1.
6. Move the PLATEN ROLLER in the direction shown by the arrow as shown in Fig. 1-1 to remove it.
7. Remove one RETAINING RING (ⓓ) and one BUSH PLATEN (ⓔ) shown in Fig. 1-1.
   Note: Care shall be taken not to damage the PLATEN ROLLER shaft when removing the RETAINING RING.

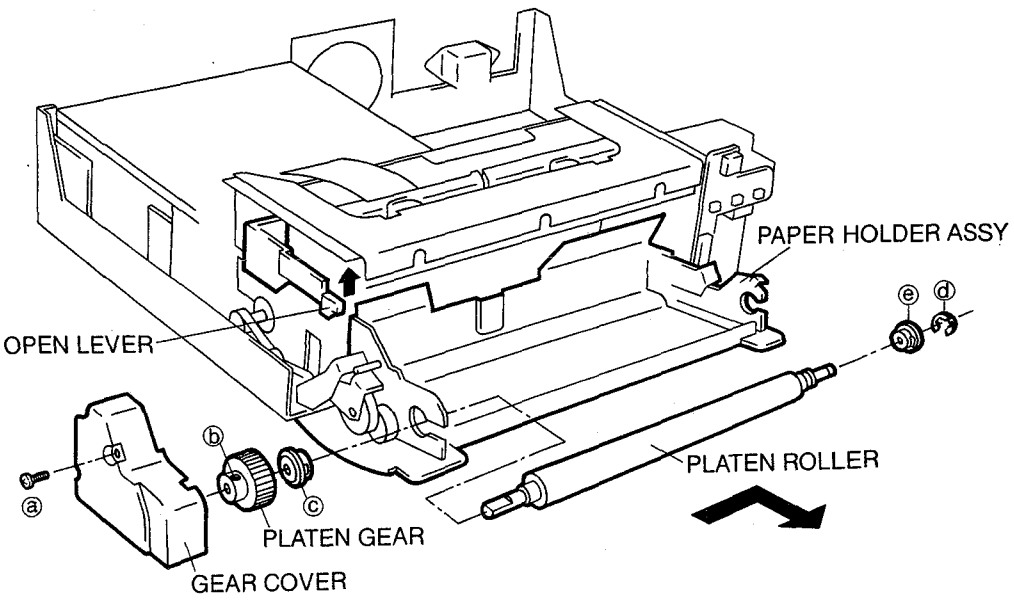


Fig. 1-1

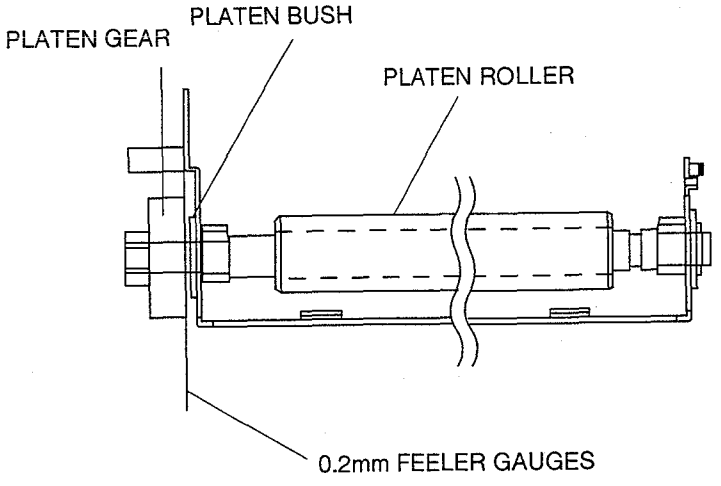


Fig. 1-2

UNIT-HEAD REMOVAL

1. Remove the TOP PANEL and FRONT PANEL.
2. Raise the OPEN LEVER and open the PAPER HOLDER ASSY.
3. Remove two screws (ⓐ and ⓑ) securing the UPPER PLATE shown in Fig. 2-1 to remove the UPPER PLATE and two EARTH PLATEs (ⓒ and ⓓ).
4. Remove two SPRING (A)s (ⓔ and ⓕ) shown in Fig. 2-1.
5. Disconnect all the connectors of the HEAD ASSY shown in Fig. 2-1 to remove the HEAD ASSY.
6. Remove two screws (ⓐ and ⓑ) securing the RADIATOR shown in Fig. 2-2 to remove the RADIATOR.
7. Remove two screws (ⓒ and ⓓ) securing the HEAD HOLDER (LEFT) shown in Fig. 2-2 to remove the HEAD HOLDER (LEFT).
   Note: When mounting the HEAD HOLDER (LEFT), insert the pin gauge (3ϕ) into two reference holes (ⓐ and ⓑ) shown in Fig. 2-3 to position the HEAD HOLDER (LEFT) and fasten the screws.
8. Remove two screws (ⓔ and ⓕ) securing the HEAD HOLDER (RIGHT) shown in Fig. 2-2 to remove the HEAD HOLDER (LEFT).
   Note: When mounting the HEAD HOLDER (RIGHT), insert the pin gauge (3ϕ) into two reference holes (ⓒ and ⓓ) shown in Fig. 2-3 to position the HEAD HOLDER (RIGHT) and fasten the screws.

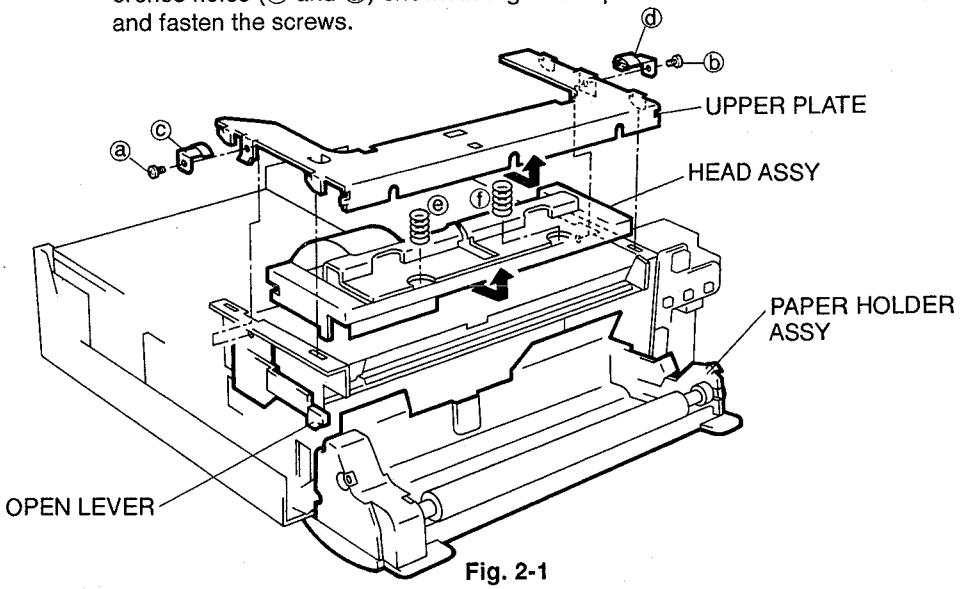


Fig. 2-1

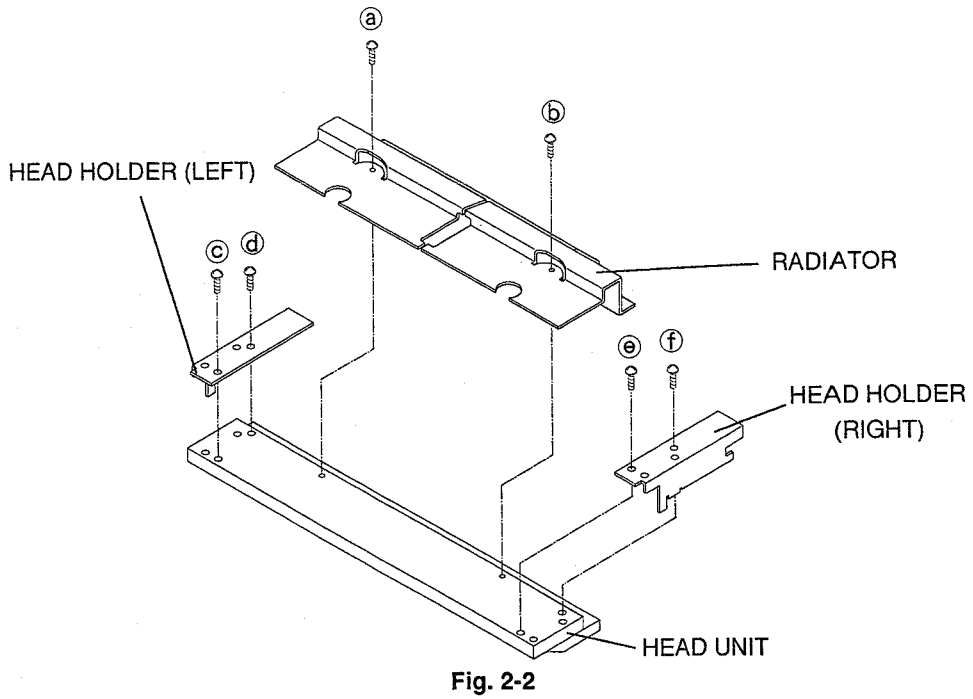


Fig. 2-2

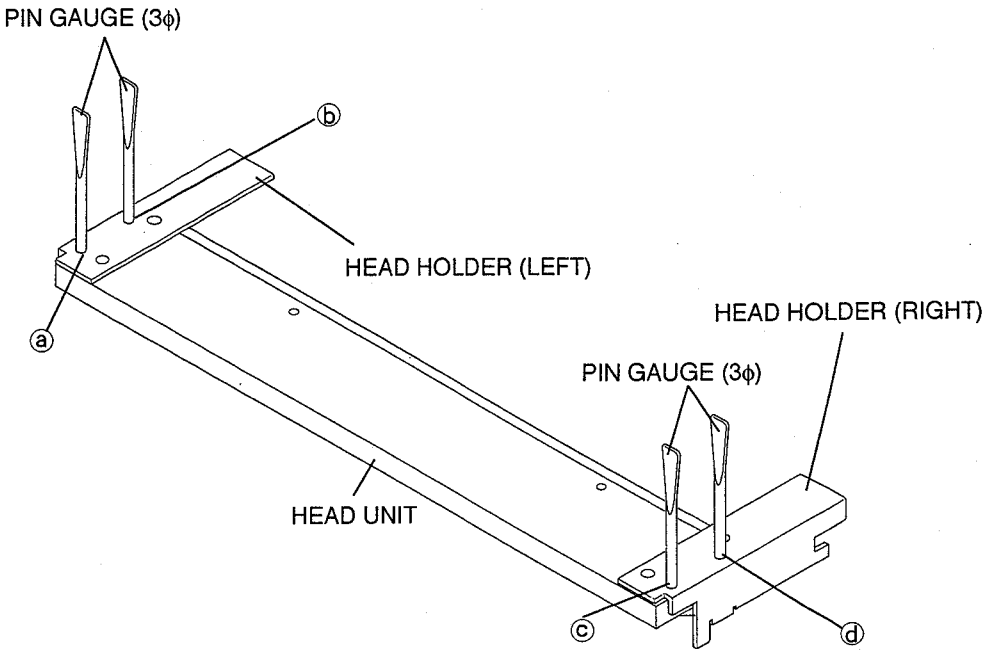
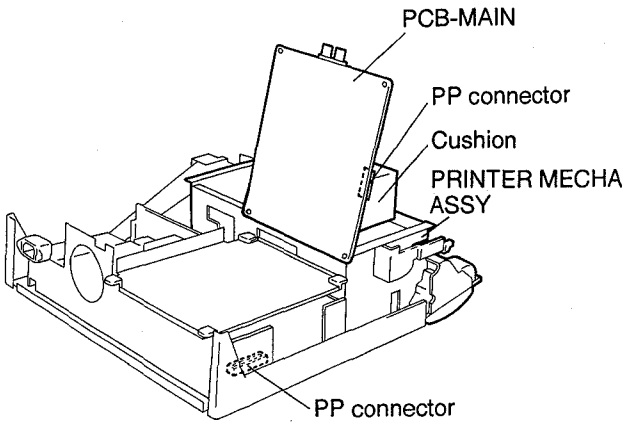
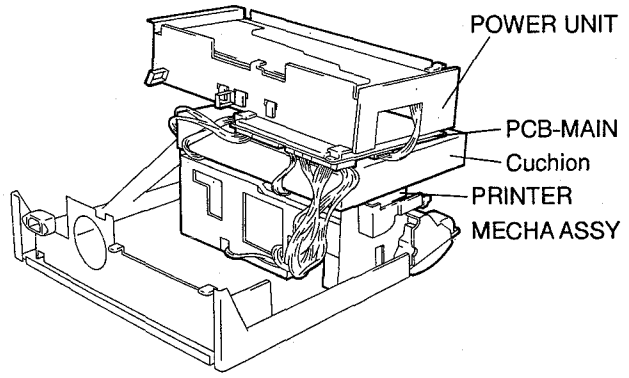

PIN GAUGE (3ϕ)
ⓑ
HEAD HOLDER (LEFT)
HEAD HOLDER (RIGHT)
ⓐ
PIN GAUGE (3ϕ)
HEAD UNIT
ⓒ
ⓓ

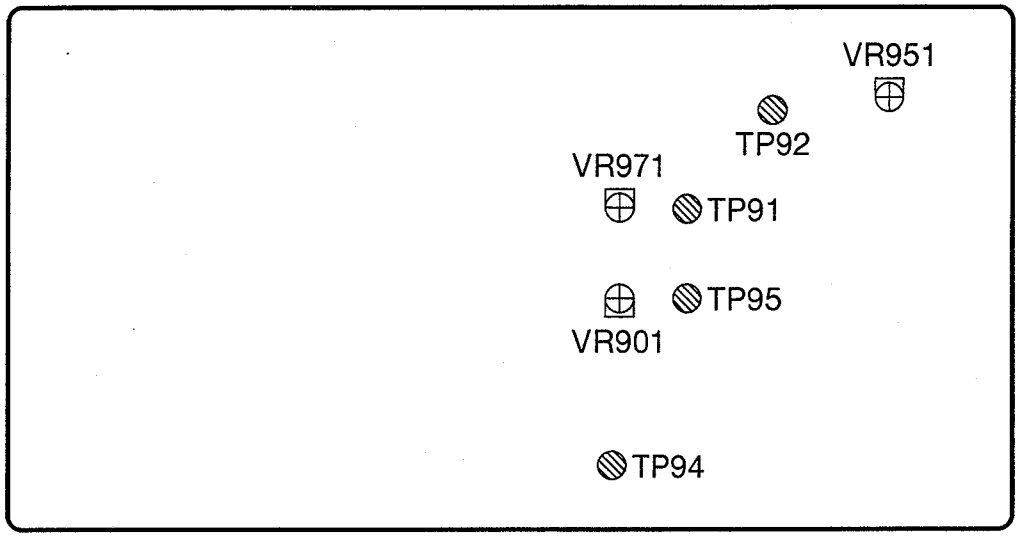
Fig. 2-3

SERVICING PCB (SOLDERED SIDE)

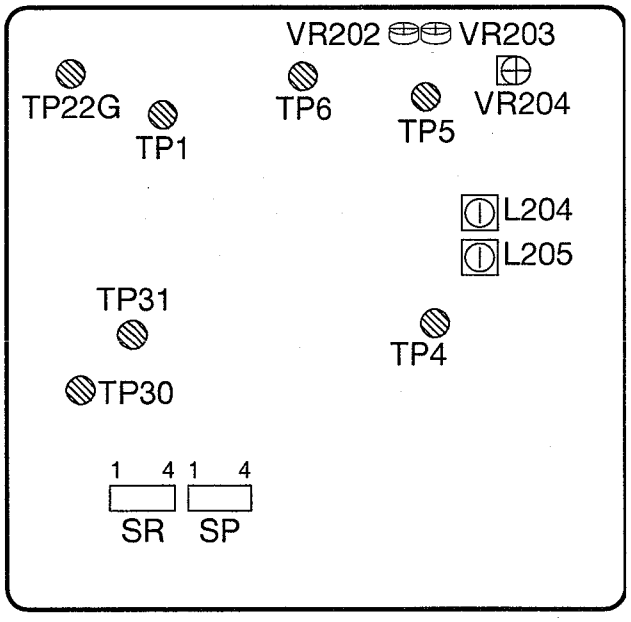
Service Position	Service Item
	• **Failure can be repaired from the copper foil side of the PCB-MAIN.** 1 Disconnect the **PP** connector. 2 Place cushion on the PRINTER MECHA ASSY as shown in the figure. 3 Stand the PCB-MAIN as shown in the figure. 4 Mount the extension jig (859C435O70) on the **PP** connector.
	• **Failure can be repaired from the copper foil side of the PCB-POWER.** 1 Remove the POWER UNIT from the BASE-CHASSIS with the PCB-MAIN provided. 2 Place cushion on the PRINTER MECHA ASSY as shown in the figure. 3 Place the POWER UNIT with the PCB-MAIN provided on the cushion placed in the step 2 above as shown in the figure.

LOCATIONS

PCB-POWER (Component side)

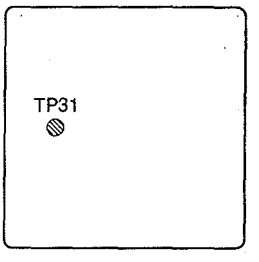


PCB-MAIN (Component side)



SERVICE MODE

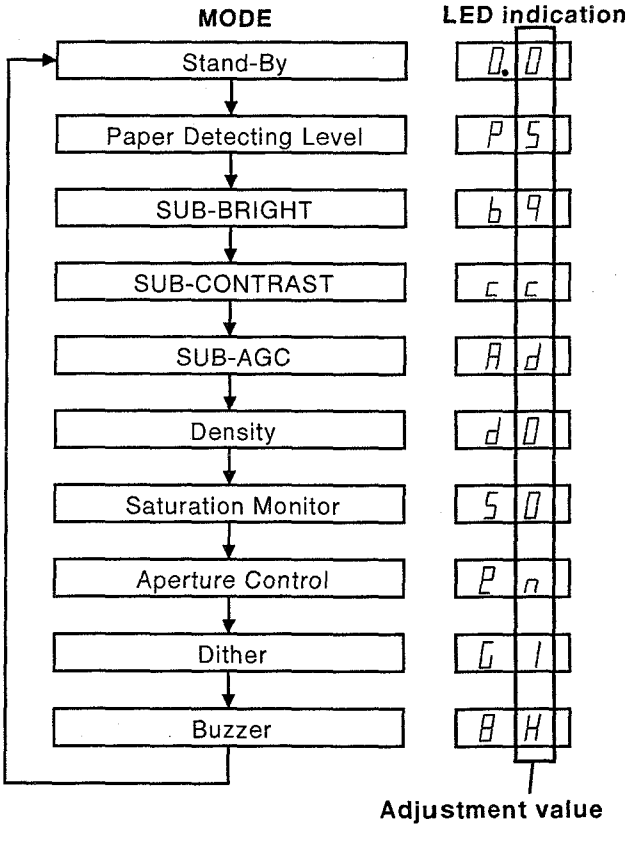
How to indicate the SERVICE Mode

Operation	LED indication
1. Turn the **POWER** button OFF. 2. Short-circuit TP31 to GND. 3. Turn the **POWER** button ON with pressing the **GAMMA** button. 4. Stop pressing the **GAMMA** button. (SERVICE mode is completely selected.)	8.8. → 55 → 0.0 (Confirm the indicator LED changes from " 55 " to " 00 ") PCB-MAIN (Component side) 

How to Select the Setting Mode

1. Set the **SERVICE** mode.
2. Select the setting mode with the **GAMMA** button, observing the indicator LED.

Note: The set up mode varies in the order shown by the arrow in the figure.



How to Set and memorize the Adjustment Value

1. Select the **SET UP** mode.
2. Set the adjustment value with the varying the adjustment value **COPY** or **FEED** button.

Note: The adjustment value appears on the right of the indicator LED.
COPY button is setting the high value for the adjustment value.
FEED button is setting the low value for the adjustment value.

3. Press the **GAMMA**, **PRINT** or **PRT-SIZE** button.

How to cancel the Service Mode

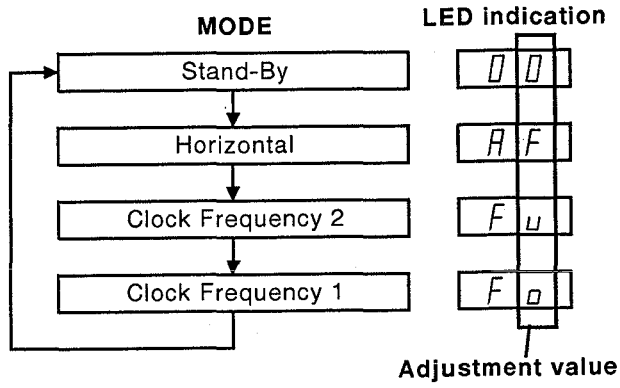
1. Press the **PRT-SIZE** button.
2. Open-circuit TP31 to GND.

The table below describes each set up mode position.

MODE	LED indicate		Right indication of the LED	Note
	Left	Right		
Stand-By	00 01		Print size can be set by varying the adjustment value. It is not necessary to set this in the **SERVICE** mode.	
Paper Detecting Level	P	5	---	Fixed
SUB-BRIGHT	b	0~F	Index of brightness. Adjustment value change by "1" at 16 steps.	Operation the varying the adjustment value **COPY** and **FEED** button with the adjustment value and 0 is no effect.
SUB-CONTRAST	c	0~F	Index of contrast. Adjustment value change by "1" at 16 steps.	Ditto
SUB-AGC	A	0~F	Index of AGC. Adjustment value change by "1" at 16 steps.	Ditto
Density	d	-9~9	Index of density, from -9 (-9) to 9 (9).	Initial setting at shipment is restored by initializing the E²PROM.
Saturation Monitor	S	0 1	Used to reverse the signal polarity (white-black) of the image area that expands over the limits during BRIGHT and CONTRAST adjustment. When 1 (in), the image is reversed and when 0 (out), not reversed.	Ditto
Aperture Control	P	5 n H	Index of aperture control. H indicates maximum aperture correction 5 (soft), n (nomal), and H (Hard).	Ditto
Dither	G	0 1	Used to select the gradation. 1 (in) indicates 256 gradations and 0 (out) 64 gradations.	Ditto
Buzzer	B	0 L H	Used to select the buzzer. 0 (volume:mute) L (volume:low) H (volume:high) **Note)** When the LED indicates 0, the volume is low in case of occurring an error.	Ditto

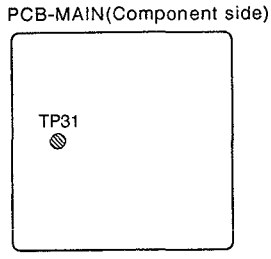
HOW TO INDICATE THE ADJUSTMENT MODE

Operation	LED Display
1. Turn the **POWER** button OFF. 2. Short-circuit TP31 to GND. 3. Turn the **POWER** button ON while pressing the **PRINT** button on the VCP. 4. Release the **PRINT** button on the VCP. (The ADJUSTMENT mode is completely selected.) 5. Select the setting mode with the **COPY** button, observing the indicator LED.	8.8. → - - → 0 0 (Confirm that the indicator LED changes from " - - " to " 0 0 ".) Note) If you make an error during the ADJUSTMENT mode, turn the **POWER** button OFF and then select the ADJUSTMENT mode again.



How to cancel the Adjustment Mode

1. Turn the **POWER** button OFF.
2. Open-circuit TP31 to GND.



CHECK OF DETECTION LEVEL FOR PAPER

Conduct the steps below and confirm the indicator LED.

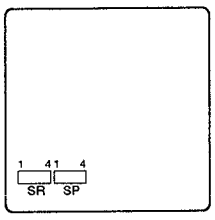
Operation	LED Display
1. Select the ADJUSTMENT mode.	00
2. Take the printing paper out.	Eo
3. Close the door.	EP
4. Press the **GAMMA** button once.	P5
5. Press the **MONITOR** button once.	P0
6. Open the door.	Po

Note) The table below shows the normal voltage at pin 2 of connector **SR** and at pin 2 of connector SP respectively with and without a printing paper provided.

Printing Paper	Voltage
Provided	1.5V or less
Not provided	3.5V or more

7. Quit the ADJUSTMENT mode.

PCB-MAIN(Component side)



INITIALIZATION OF THE E²PROM

Necessary on replacement of E²PROM.
Note) Do not initialize E²PROM expect when replaced. User setting is canceled.

Operation	LED Display
1. Turn the **POWER** button OFF.	
2. Turn the **POWER** button ON while pressing **FEED** and **COPY** buttons at the same time.	8.8. → 11 → 00 (Confirm that the indicator LED changes from " 11 " to " 00 ")
3. Release the **FEED** and **COPY** buttons. (Initialization is completed.)	

* After E²PROM is initialized, the following adjustment values in the service mode are restored to the initial values at shipment.

Set mode	LED Display
• Density	d0
• Saturation Monitor	50
• Aperture Control	En
• Dither	G1
• Buzzer	8H

ELECTRIC ADJUSTMENT

■ Setting prior to adjustment

- Mode switch and others

Set Point			Setting
S201 Mode Switch (Back)	#1	IMP	75Ω
	#2	N-TRAP	OFF
	#3	P-TRAP	OFF
S701 Mode Switch (Front)	#1	IMAGE	POSI
	#2	AFC	OFF
	#3	DIR	NOR
	#4	MEMORY	FRAME
	#5	SCAN	UNDER
	#6	SAVING	OFF
	#7	PAPER	HD
	#8	AGC	OFF

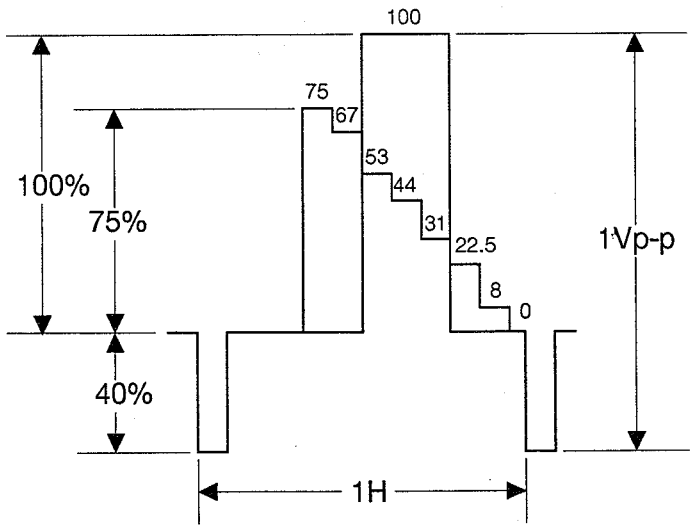
Set Point		Setting
Power Supply	OFF/ON	ON
Front Panel	Paper	K75HM
Remote Control	Input Terminal	Remote Control Connection
VIDEO IN	Input Terminal	NTSC Step Wave (provided with window)
VIDEO OUT	Output Terminal	Monitor Connection
AC IN	Power Input	120V 220V-240V
BRT	Volume	Center Click
CONT	Volume	Center Click

■ Measuring Equipment & Jig

①Color monitor (TV for AV input)
②Oscilloscope (Set probe to 10:1 unless otherwise specified.)
③Signal generator
④Frequency counter
⑤A set of general electric tools
⑥Digital voltmeter

■ Input Signal

Video signal: NTSC step wave (provided with window)



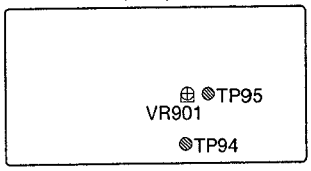
1. Increased primary Voltage	**Adjustment purpose**	Worldwide voltage at the primary side: To increase voltage from 120V / 220-240V to 380V / 409V.
	Symptom when incorrectly adjusted	The consumption power increases.

Measuring instrument	Digital voltmeter
Test point	TP94, TP95
EXT trigger	– – –
Measurement range	– – –
Input signal	– – –
Input terminal	– – –

1. Connect (–) terminal of the Digital voltmeter to TP95.
2. Connect (+) terminal of the Digital voltmeter to TP94.
3. Supply an AC 120V or 220-240V to the Set.
4. Adjust VR901 so that the Digital voltmeter reads the value specified in table.

AC voltage	Digital voltmeter value
120V	380 ± 3V
220-240V	409 ± 3V

PCB-POWER (Component side)



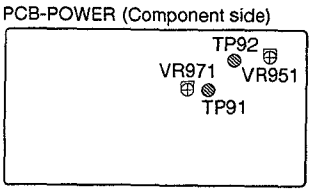
2. Main Voltage/Head Voltage	**Adjustment purpose**	To correct uneven density of the printed picture caused by unevenness of head resistor.
	Symptom when incorrectly adjusted	Too dense or too thin the printed picture particularly in the black area resulting in dull or burnt black picture.

Measuring instrument	Digital voltmeter
Test point	TP91, TP92
EXT trigger	– – –
Measurement range	– – –
Input signal	– – –
Input terminal	– – –

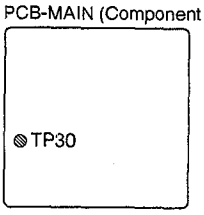
1. Read the Thermal Head resistance value.
2. Short-circuit TP30 to GND.
3. Observe the voltage at TP91.
4. Adjust VR971 so that the reading is E1±0.10V.
5. Observe the voltage at TP92.
6. Adjust VR951 so that the reading is E2±0.05V.
7. Open-circuit TP30 to GND.

Note) E1 : E2±2.5[V]
E2 : The value in table [V]

PCB-POWER (Component side)



PCB-MAIN (Component side)



HEAD RESISTANCE-APPLY VOLTAGE(E2)

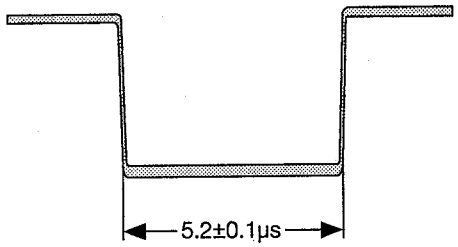
Resistance 3 significant figure [Ω]	Resistance 4th figure [Ω]									
	0	1	2	3	4	5	6	7	8	9
2970	21.323	21.327	21.330	21.334	21.337	21.341	21.344	21.348	21.351	21.355
2980	21.359	21.362	21.366	21.369	21.373	21.376	21.380	21.383	21.387	21.390
2990	21.394	21.397	21.401	21.404	21.408	21.411	21.415	21.418	21.422	21.425
3000	21.429	21.432	21.436	21.439	21.443	21.446	21.450	21.453	21.457	21.460
3010	21.464	21.467	21.471	21.474	21.478	21.481	21.485	21.488	21.492	21.495
3020	21.499	21.502	21.506	21.509	21.513	21.516	21.520	21.523	21.527	21.530
3030	21.534	21.537	21.541	21.544	21.548	21.551	21.555	21.558	21.562	21.565
3040	21.569	21.572	21.576	21.579	21.582	21.586	21.589	21.593	21.596	21.600
3050	21.603	21.607	21.610	21.614	21.617	21.621	21.624	21.628	21.631	21.635
3060	21.638	21.642	21.645	21.649	21.652	21.655	21.659	21.662	21.666	21.669
3070	21.673	21.676	21.680	21.683	21.687	21.690	21.694	21.697	21.701	21.704
3080	21.707	21.711	21.714	21.718	21.721	21.725	21.728	21.732	21.735	21.739
3090	21.742	21.746	21.749	21.752	21.756	21.759	21.763	21.766	21.770	21.773
3100	21.777	21.780	21.783	21.787	21.790	21.794	21.797	21.801	21.804	21.808
3110	21.811	21.815	21.818	21.821	21.825	21.828	21.832	21.835	21.839	21.842
3120	21.845	21.849	21.852	21.856	21.859	21.863	21.866	21.870	21.873	21.876
3130	21.880	21.883	21.887	21.890	21.894	21.897	21.900	21.904	21.907	21.911
3140	21.914	21.918	21.921	21.924	21.928	21.931	21.935	21.938	21.942	21.945
3150	21.948	21.952	21.955	21.959	21.962	21.966	21.969	21.972	21.976	21.979
3160	21.983	21.986	21.989	21.993	21.996	22.000	22.003	22.007	22.010	22.013
3170	22.017	22.020	22.024	22.027	22.030	22.034	22.037	22.041	22.044	22.048
3180	22.051	22.054	22.058	22.061	22.065	22.068	22.071	22.075	22.078	22.082
3190	22.085	22.088	22.092	22.095	22.099	22.102	22.105	22.109	22.112	22.116
3200	22.119	22.122	22.126	22.129	22.133	22.136	22.139	22.143	22.146	22.150
3210	22.153	22.156	22.160	22.163	22.166	22.170	22.173	22.177	22.180	22.183
3220	22.187	22.190	22.194	22.197	22.200	22.204	22.207	22.210	22.214	22.217
3230	22.221	22.224	22.227	22.231	22.234	22.238	22.241	22.244	22.248	22.251
3240	22.254	22.258	22.261	22.265	22.268	22.271	22.275	22.278	22.281	22.285
3250	22.288	22.292	22.295	22.298	22.302	22.305	22.308	22.312	22.315	22.318
3260	22.322	22.325	22.329	22.332	22.335	22.339	22.342	22.345	22.349	22.352
3270	22.355	22.359	22.362	22.366	22.369	22.372	22.376	22.379	22.382	22.386
3280	22.389	22.392	22.396	22.399	22.403	22.406	22.409	22.413	22.416	22.419
3290	22.423	22.426	22.429	22.433	22.436	22.439	22.443	22.446	22.449	22.453
3300	22.456	22.459	22.463	22.466	22.469	22.473	22.476	22.480	22.483	22.486
3310	22.490	22.493	22.496	22.500	22.503	22.506	22.510	22.513	22.516	22.520
3320	22.523	22.526	22.530	22.533	22.536	22.540	22.543	22.546	22.550	22.553
3330	22.556	22.560	22.563	22.566	22.570	22.573	22.576	22.580	22.583	22.586
3340	22.590	22.593	22.596	22.600	22.603	22.606	22.610	22.613	22.616	22.619
3350	22.623	22.626	22.629	22.633	22.636	22.639	22.643	22.646	22.649	22.653
3360	22.656	22.659	22.663	22.666	22.669	22.673	22.676	22.679	22.683	22.686
3370	22.689	22.692	22.696	22.699	22.702	22.706	22.709	22.712	22.716	22.719
3380	22.722	22.726	22.729	22.732	22.735	22.739	22.742	22.745	22.749	22.752
3390	22.755	22.759	22.762	22.765	22.768	22.772	22.775	22.778	22.782	22.785
3400	22.788	22.792	22.795	22.798	22.801	22.805	22.808	22.811	22.815	22.818

Resistance 3 significant figure [Ω]	Resistance 4th figure [Ω]									
	0	1	2	3	4	5	6	7	8	9
3410	22.821	22.825	22.828	22.831	22.834	22.838	22.841	22.844	22.848	22.851
3420	22.854	22.857	22.861	22.864	22.867	22.871	22.874	22.877	22.880	22.884
3430	22.887	22.890	22.894	22.897	22.900	22.903	22.907	22.910	22.913	22.917
3440	22.920	22.923	22.926	22.930	22.933	22.936	22.939	22.943	22.946	22.949
3450	22.953	22.956	22.959	22.962	22.966	22.969	22.972	22.975	22.979	22.982
3460	22.985	22.989	22.992	22.995	22.998	23.002	23.005	23.008	23.011	23.015
3470	23.018	23.021	23.024	23.028	23.031	23.034	23.038	23.041	23.044	23.047
3480	23.051	23.054	23.057	23.060	23.064	23.067	23.070	23.073	23.077	23.080
3490	23.083	23.086	23.090	23.093	23.096	23.099	23.103	23.106	23.109	23.112
3500	23.116	23.119	23.122	23.125	23.129	23.132	23.135	23.138	23.142	23.145
3510	23.148	23.151	23.155	23.158	23.161	23.164	23.168	23.171	23.174	23.177
3520	23.181	23.184	23.187	23.190	23.194	23.197	23.200	23.203	23.207	23.210
3530	23.213	23.216	23.219	23.223	23.226	23.229	23.232	23.236	23.239	23.242
3540	23.245	23.249	23.252	23.255	23.258	23.261	23.265	23.268	23.271	23.274
3550	23.278	23.281	23.284	23.287	23.291	23.294	23.297	23.300	23.303	23.307
3560	23.310	23.313	23.316	23.320	23.323	23.326	23.329	23.332	23.336	23.339
3570	23.342	23.345	23.349	23.352	23.355	23.358	23.361	23.365	23.368	23.371
3580	23.374	23.377	23.381	23.384	23.387	23.390	23.394	23.397	23.400	23.403
3590	23.406	23.410	23.413	23.416	23.419	23.422	23.426	23.429	23.432	23.435
3600	23.438	23.442	23.445	23.448	23.451	23.455	23.458	23.461	23.464	23.467
3610	23.471	23.474	23.477	23.480	23.483	23.487	23.490	23.493	23.496	23.499
3620	23.503	23.506	23.509	23.512	23.515	23.518	23.522	23.525	23.528	23.531
3630	23.534	23.538	23.541	23.544	23.547	23.550	23.554	23.557	23.560	23.563

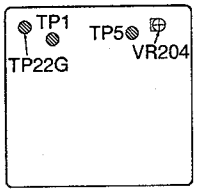
3. Horizontal synchronized pulse width	**Adjustment purpose**	To adjust the capture range of the AFC function center.
	Symptom when incorrectly adjusted	Disturbance in horizontal sync.

Measuring instrument	Oscilloscope
Test point	CH1 : TP1 CH2 : TP5
EXT trigger	– – –
Measurement range	DIV :0.1V TIM :1μs (DELAY mode)
Input signal	Video signal (staircase with window)
Input terminal	VIDEO IN terminal

1. Turn #2 : AFC swich of the S701 (MODE) off.
2. Supply a video signal (staircase with window).
3. Connect CH1 of the oscilloscope to TP1 and CH2 to TP5.
   (Connect the oscilloscope GND to TP22G.)
4. Trigger in the falling edge of CH2.
5. Magnify the pulse width of CH2 with delay sweep.
6. Adjust VR204 so that the pulse width of the waveform indicated below is pulse width=5.2±0.1μs.



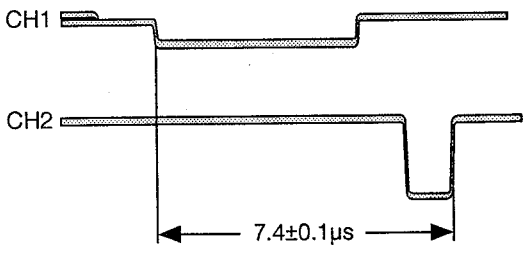
PCB-MAIN (Component side)



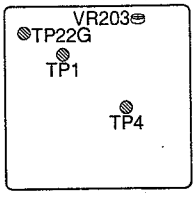
4. Horizontal Position	**Adjustment purpose**	To adjust the horizontal picture position on the print paper.
	Symptom when incorrectly adjusted	Horizontal position of printed picture displaced to left or right.

Measuring instrument	Oscilloscope
Test point	CH1: TP1 CH2: TP4
EXT trigger	– – –
Measurement range	DIV :CH1 50mV :CH2 0.2V TIM :1μs (DELAY mode)
Input signal	Video signal (staircase with window)
Input terminal	VIDEO IN terminal

1. Turn #2 : AFC swich of the S701 (MODE) off.
2. Supply a video signal (staircase with window).
3. Connect CH1 of the oscilloscope to TP1 and CH2 to TP4.
   (Connect the oscilloscope GND to TP22G).
4. Trigger in the rising edge of CH2 and magnify the portion.
5. Magnify the horizontal synchronization.
6. Adjust VR203 so that the phase difference between the falling edge of CH1 and the rising edge of CH2 is 7.4 ± 0.1μs.



PCB-MAIN (Component side)



5. Horizontal AFC

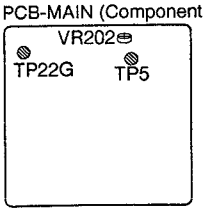
Adjustment purpose To correct uneven oscillating frequency of the horizontal AFC circuit.

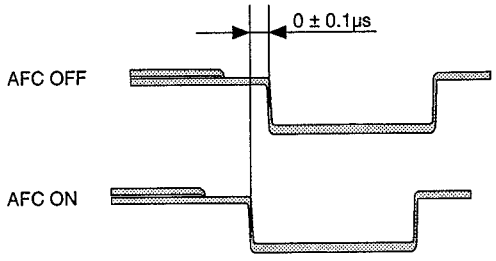
Symptom when incorrectly adjusted Poor horizontal synchronization of picture to be printed.

Measuring instrument	Oscilloscope
Test point	CH1 : TP1 CH2 : TP5
EXT trigger	– – –
Measurement range	DIV :CH1 20mV :CH2 0.2V TIM :1μs (DELAY mode)
Input signal	Video signal (staircase with window)
Input terminal	VIDEO IN terminal

1. Supply a video signal (staircase with window).
2. Connect CH1 of the oscilloscope to TP1 and CH2 to TP5. (Connect the oscilloscope GND to TP22G.)
3. Trigger in the falling edge of CH2.
4. Magnify the falling edge of CH1 by applying delay trigger.
5. Set the indicator LED to 00 in the ADJUSTMENT mode (AFC OFF).
6. Press the **COPY** button to set LED to AF (AFC ON).
7. Adjust VR202 so that the phase difference between the center of the screen and the falling edge of CH1 is 0±0.1μs.

PCB-MAIN (Component side)





6. Clock Frequency 2

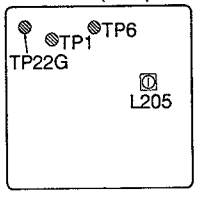
Adjustment purpose To set the oscillating frequency of the input signal from sampling clock oscillator.

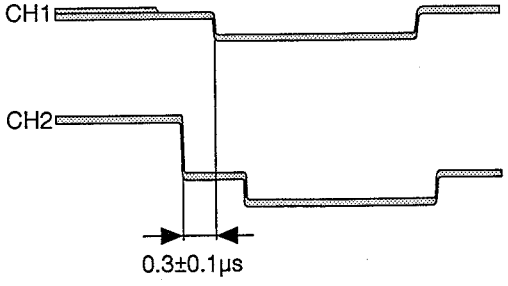
Symptom when incorrectly adjusted Picture to be printed cut or shrunk horizontally.

Measuring instrument	Oscilloscope
Test point	CH1 : TP1 CH2 : TP6
EXT trigger	– – –
Measurement range	DIV :CH1 50mV :CH2 0.1V TIM :0.5μs (DELAY mode)
Input signal	Video signal (staircase with window)
Input terminal	VIDEO IN terminal

1. Supply a video signal (staircase with window).
2. Set the ADJUSTMENT mode.
3. Press the **COPY** button to set LED to Fu.
4. Connect CH1 of the oscilloscope to TP1 and CH2 to TP6. (Connect the oscilloscope GND to TP22G.)
5. Trigger in the falling edge of CH2 and magnify the portion.
6. Magnify the horizontal synchronization.
7. Adjust L205 so that tn in the following figure is 0.3 ± 0.1μs.

PCB-MAIN (Component side)

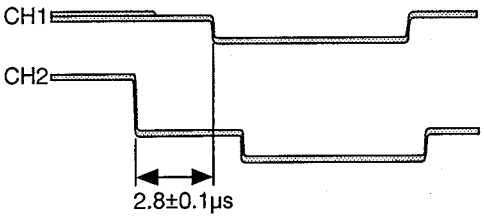




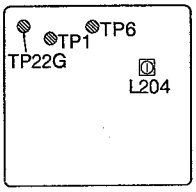
7. Clock Frequency 1	**Adjustment purpose** To set the oscillating frequency of input signal from sampling clock oscillator. **Symptom when incorrectly adjusted** Picture to be printed cut or shrunk horizontally.

Measuring instrument	Oscilloscope
Test point	TP1,TP6
EXT trigger	– – –
Measurement range	DIV :CH1 50mV :CH2 0.1V TIM :1μs (DELAY mode)
Input signal	Video signal (staircase with window)
Input terminal	VIDEO IN terminal

1. Supply a video signal (staircase with window).
2. Set the ADJUSTMENT mode.
3. Press the **COPY** button to set LED to Fo.
4. Connect CH1 of the oscilloscope to TP1 and CH2 to TP6. (Connect the oscilloscope GND to TP22G.)
5. Trigger in the falling edge of CH2 and magnify the portion.
6. Magnify the horizontal synchronization.
7. Adjust L204 so that tn in the following figure is 2.8 ± 0.1μs.



PCB-MAIN (Component side)

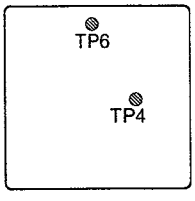


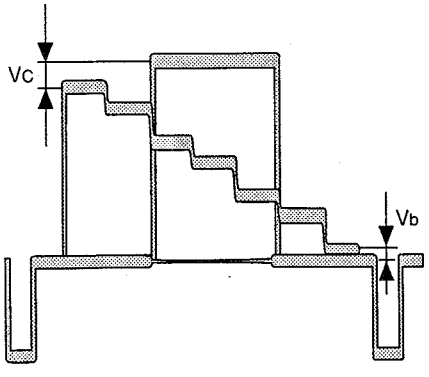
8. SUB-BRIGHT, SUB-CONTRAST, SUB-AGC	**Adjustment purpose** To set the brightness and contrast of the input signal. **Symptom when incorrectly adjusted** Poor brightness or poor contrast or poor AGC level of printed or monitored picture.

Measuring instrument	Oscilloscope
Test point	CH1 : TP6 CH2 : TP4
EXT trigger	– – –
Measurement range	DIV :10mV TIM :10μs
Input signal	Video signal (staircase with window)
Input terminal	VIDEO IN terminal

1. Supply a video signal (staircase with window).
2. Select the service mode.
3. Select the SUB-BRIGHT setting mode.
4. Connect CH1 of the oscilloscope to TP6 and CH2 to TP4.
5. Trigger in the rising of CH2.
6. Observe the waveform at TP6.
7. Press **COPY/FEED** buttons so that Vb in the below figure is 0.04±0.01Vp-p.
8. Select the SUB-CONTRAST and SUB-AGC setting mode.
9. Press **COPY/FEED** buttons so that Vc in the below figure is 0.11±0.01Vp-p.

PCB-MAIN (Component side)





CHIP PARTS REPLACEMENT

CHIP PARTS REPLACEMENT

Some resistors, shorting jumpers (0Ω resistor), ceramic capacitors, transistors and diodes are chip parts which are used for certain circuit elements. When replacing these parts, note the following cautions.

Cautions:

A. Use fine tipped, well insulated soldering pencil (iron), about 30 watts, and tweezers.
B. Melt the solder and remove the Chip Parts carefully so as not to tear off the copper foil of the printed circuit board.
C. Discard removed chips; do not reuse them.
D. Do not apply heat for more than 3 seconds to new chip Parts.
E. Avoid using a rubbing stroke when soldering.
F. Take care not to scratch, or damage the Chip Parts when soldering.
G. Supplementary cementing is not required.

1 Removal of Chip Parts (Resistors, capacitors, etc.)

A. Grasp the part with tweezers. Melt the solder at both sides alternately, remove one side of the part with a twisting motion.
B. Melt the solder at the other side and remove the part.

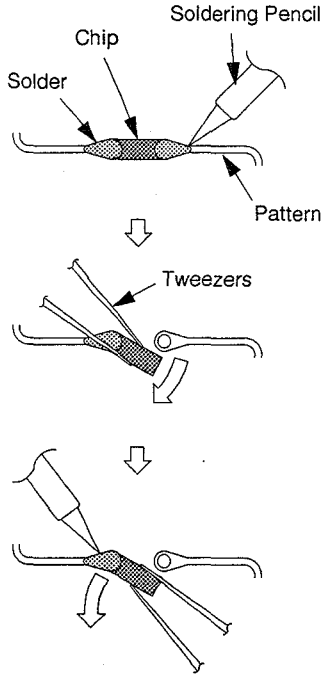


Fig. 1

2 Removal of Chip Parts (Transistors)

A. Melt the solder of one lead. Lift the side of that lead upward.
B. Simultaneously melt the solder of the two remaining leads and lift the part.

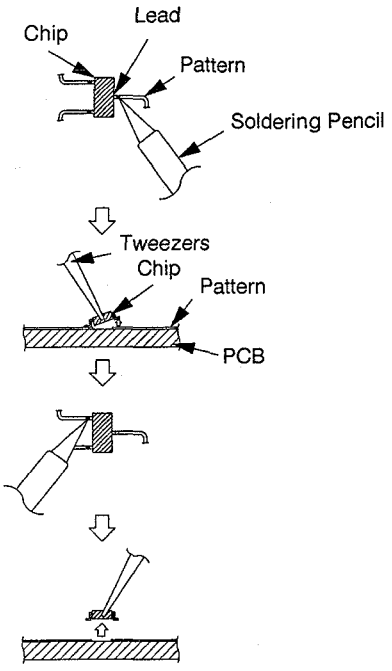


Fig. 2

3 Replacement

A. Presolder the contact points of the circuit pattern.
B. Press the part downward with tweezers and apply the soldering pencil as shown in Fig. 3.

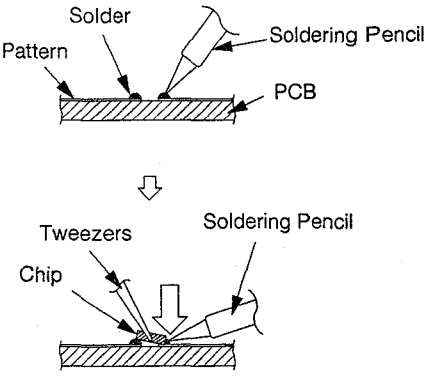


Fig. 3

PARTS LIST

MODEL : P500W/P500E

In order to expedite delivery of replacement part orders.

Specify : 1. Model number/Serial number
2. Part number and Description
3. Quantity

Unless full information is supplied, delay in execution of orders will result.

* : Warranty return items (P500W only)

⚠ : Critical components

MARK	B	C	D	F	G	J	K
TOLERANCE (%)	± 0.1	± 0.25	± 0.5	± 1	± 2	± 5	± 10

MARK	M	N	V	X	Z	P	Q
TOLERANCE (%)	± 20	± 30	+ 10 − 10	+ 40 − 20	+ 80 − 20	+ 100 − 0	+ 30 − 10

MARK	B	C	D	F	G
TOLERANCE (pF)	± 0.1	± 0.25	± 0.5	± 1	± 2

ABBREVIATION

[W] : P500W

[E] : P500E

[W] : P500W [E] : P500E

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
		INTEGRATED CIRCUITS	
IC201	272P499010	IC	HA11465A
IC202	272P529010	IC	L78N09/AN78N09
IC203	266P923040	IC	NJM78L05A
IC204	272P151010	IC	NJM2217L
IC205	272P773010	IC	SN74LS221NS
IC206	263P485010	IC	MC74HC00AF
IC207	272P086020	IC	MB40576PF
IC208	272P087020	IC	MB40776PF
IC209	270P250010	IC	M51489L
IC210	272P583010	IC	NJM2233BM
IC401	272P747020	IC	SLA7024M
IC402	272P235010	IC	TA7291S
IC403	272P235010	IC	TA7291S
IC701	263P748010	IC	M50734SP
IC702	274D029010	IC	M27C256B-12F1
IC703	274P467010	IC	CXK5864CM-70LL
IC704	263P599010	IC	M62352GP
IC705	274P397010	IC	BR93LC56F
IC706	272P357010	IC	PST529C (T529C)
IC771	274P401010	IC	UPD65647GD-020-5BD
IC772	274P392020	IC	HM514260ALJ-8
IC773	274P392020	IC	HM514260ALJ-8
IC775	274P653010	IC	M60052-0216FP
IC776	274P398010	IC	M5M5256BFP-85
IC777	263P145010	IC	SC7S08F (E2)
IC778	263P149010	IC	SN74HC74DB
IC779	263P428010	IC	SC14S71F
IC950	272P500010	IC	HA17431P
IC951	270P153010	IC	MC34063AP1
IC952	270P290010	IC	MC34167T
IC953	272P502010	IC	UPC2412AHF
IC954	272P240010	IC	M5237L
IC971	270P344010	IC	MC34262P
IC972	272P564010	IC	M51977P
IC973	272P502010	IC	UPC2412AHF
IC974	270P389010	IC	M51945BL
		TRANSISTORS	
Q 201	260P804030	CHIP TRANSISTOR	2SC3052-G
Q 202	260P804030	CHIP TRANSISTOR	2SC3052-G
Q 203	260P804030	CHIP TRANSISTOR	2SC3052-G
Q 204	260P806010	CHIP TRANSISTOR	DTA124EK
Q 205	260P849010	CHIP TRANSISTOR	IMZ1
Q 206	260P849010	CHIP TRANSISTOR	IMZ1
Q 207	260P849010	CHIP TRANSISTOR	IMZ1
Q 208	260P849010	CHIP TRANSISTOR	IMZ1
Q 209	260P817030	CHIP TRANSISTOR	2SA1037K-S
Q 210	260P809010	CHIP TRANSISTOR	DTC114YK
Q 211	260P804030	CHIP TRANSISTOR	2SC3052-G
Q 701	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 702	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 703	260P852010	CHIP TRANSISTOR	FMG2
Q 704	260P852010	CHIP TRANSISTOR	FMG2
Q 705	260P852010	CHIP TRANSISTOR	FMG2
Q 706	260P852010	CHIP TRANSISTOR	FMG2
Q 707	260P852010	CHIP TRANSISTOR	FMG2
Q 708	260P849010	CHIP TRANSISTOR	IMZ1
Q 712	260P807010	CHIP TRANSISTOR	UN2212
Q 713	260P807010	CHIP TRANSISTOR	UN2212
Q 714	260P852010	CHIP TRANSISTOR	FMG2
Q 715	260P806010	CHIP TRANSISTOR	DTA124EK
Q 716	260P807010	CHIP TRANSISTOR	UN2212
Q 717	260P806010	CHIP TRANSISTOR	DTA124EK
Q 718	260P807010	CHIP TRANSISTOR	UN2212
Q 719	260P807010	CHIP TRANSISTOR	UN2212
Q 720	260P804030	CHIP TRANSISTOR	2SC3052-G
Q 721	260P804030	CHIP TRANSISTOR	2SC3052-G
Q 730	260P849010	CHIP TRANSISTOR	IMZ1
Q 731	260P849010	CHIP TRANSISTOR	IMZ1
Q 732	260P849010	CHIP TRANSISTOR	IMZ1
Q 733	260P849010	CHIP TRANSISTOR	IMZ1
Q 734	260P849010	CHIP TRANSISTOR	IMZ1
Q 735	260P849010	CHIP TRANSISTOR	IMZ1
Q 736	260P849010	CHIP TRANSISTOR	IMZ1
Q 737	260P849010	CHIP TRANSISTOR	IMZ1
Q 951	260P560040	TRANSISTOR	2SA933S-S
Q 952	260P642030	TRANSISTOR	2SB883
⚠ Q 971	261P044010	TRANSISTOR	2SK2080-01
⚠ Q 972	261P050010	TRANSISTOR	2SK1464
Q 973	260P490010	TRANSISTOR	2SD1153
		DIODES	
D 201	264P803010	CHIP DIODE	MC2838
D 202	264P803010	CHIP DIODE	MC2838
D 501	264P579010	LIGHT EMITTING DIODE	GL9E030
D 502	264P579010	LIGHT EMITTING DIODE	GL9E030
D 701	264P803010	CHIP DIODE	MC2838
D 702	264P816050	CHIP DIODE	RD7.5MB2
D 703	264P816050	CHIP DIODE	RD7.5MB2
D 704	264P816050	CHIP DIODE	RD7.5MB2
D 705	264P816050	CHIP DIODE	RD7.5MB2
⚠ D 901	264P535010	DIODE	RBV-608
D 902	264P522010	DIODE	RU 1P
D 904	264P521030	DIODE	EU 2
D 930	264P045040	DIODE	1S2471OM
D 950	264P580010	DIODE	ESAC92M-02
D 952	264P657010	DIODE	EK14V
D 953	264P670010	DIODE	D5S4M
D 954	264P470050	DIODE	RD33EB2, EB3, EB4
D 955	264P045040	DIODE	1S2471OM
D 956	264P045040	DIODE	1S2471OM
D 957	264P484040	DIODE	RD5.6FB3
D 958	264P045040	DIODE	1S2471OM
D 959	264P489010	DIODE	RD16FB1
D 971	264P588010	DIODE	FML-G16S
D 972	264P521030	DIODE	EU 2
D 973	264P521030	DIODE	EU 2

[W] : P500W [E] : P500E

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
D 976	264P521030	DIODE	EU 2
		FILTERS	
⚠ L 901	351P072010	LINE FILTER	SC-04-200JV
⚠ L 902	351P072010	LINE FILTER	SC-04-200JV
		COILS	
L 201	349P064020	TRAP COIL	3.58MHz
L 202	320P022020	TRAP COIL	4.43MHz
L 203	325C166030	PEAKING COIL	10μH-J
L 204	349P179050	OSCILLATOR COIL	
L 205	349P179050	OSCILLATOR COIL	
L 206	325C166030	PEAKING COIL	10μH-J
L 207	325C107050	PEAKING COIL	100μH-J
L 208	325C107050	PEAKING COIL	100μH-J
L 771	325C140090	CHIP COIL	4.7μH-M
L 950	351P132010	CHOKE COIL	HP-104Z
L 951	351P113010	COIL	220μH-K 1.1A
L 953	351P081030	COIL	SN8D-5005
⚠ T 901	351P137010	CHOKE COIL	
		TRANSFORMERS	
⚠ T 902	350P672010	POWER TRANSFORMER	
		VARIABLE RESISTORS	
VR202	127C490080	SEMIFIXED VR	1/5W B10kΩ+-25%
VR203	127C491000	SEMIFIXED VR	1/5W B30kΩ+-25%
VR204	127C390080	SEMIFIXED VR	1/5W B10kΩ-M
VR701	129D167060	PCB VR	1/20W B5kΩ-15F CS
VR702	129D132020	PCB VR	1/20W B2kΩ-15F CS
VR901	127C390050	SEMIFIXED VR	1/5W B2kΩ-M
VR951	127C390090	SEMIFIXED VR	1/5W B20kΩ-M
VR971	127C390070	SEMIFIXED VR	1/5W B5kΩ-M
		RESISTORS	
R 201	103P470050	CHIP RESISTOR	1/10W 150Ω-F
R 202	103P470050	CHIP RESISTOR	1/10W 150Ω-F
R 203	103P404010	CHIP RESISTOR	1/10W 22kΩ-J
R 204	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 205	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 206	103P472050	CHIP RESISTOR	1/10W 1kΩ-F
R 207	103P404020	CHIP RESISTOR	1/10W 27kΩ-J
R 208	103P473020	CHIP RESISTOR	1/10W 2kΩ-F
R 209	103P472020	CHIP RESISTOR	1/10W 750Ω-F
R 210	103P473020	CHIP RESISTOR	1/10W 2kΩ-F
R 211	103P404010	CHIP RESISTOR	1/10W 22kΩ-J
R 212	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 213	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 214	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 215	103P473070	CHIP RESISTOR	1/10W 3.3kΩ-F
R 216	103P472050	CHIP RESISTOR	1/10W 1kΩ-F
R 217	103P474010	CHIP RESISTOR	1/10W 4.7K-F
R 218	103P402030	CHIP RESISTOR	1/10W 680Ω-J
R 219	103P404080	CHIP RESISTOR	1/10W 82kΩ-J
R 220	103P476050	CHIP RESISTOR	1/10W 47kΩ-F
R 222	103P402040	CHIP RESISTOR	1/10W 820Ω-J
R 223	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 225	103P404010	CHIP RESISTOR	1/10W 22kΩ-J
R 226	103P409090	CHIP RESISTOR	1/10W 75Ω-J
R 227	103P482010	CHIP METAL RESISTOR	1/4W 470Ω-J
R 228	103P474090	CHIP RESISTOR	1/10W 10kΩ-F
R 229	103P475000	CHIP RESISTOR	1/10W 11kΩ-F
R 230	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J
R 231	103P406010	CHIP RESISTOR	1/10W 1MΩ-J
R 232	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 233	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 234	103P474090	CHIP RESISTOR	1/10W 10kΩ-F
R 235	103P474090	CHIP RESISTOR	1/10W 10kΩ-F
R 236	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 237	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 238	103P474050	CHIP RESISTOR	1/10W 6.8K
R 239	103P403060	CHIP RESISTOR	1/10W 8.2kΩ-J
R 240	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 242	103P401090	CHIP RESISTOR	1/10W 330Ω-J
R 243	103P401090	CHIP RESISTOR	1/10W 330Ω-J
R 244	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 245	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 246	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 247	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 248	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 249	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 250	103P404080	CHIP RESISTOR	1/10W 82kΩ-J
R 251	103P404000	CHIP RESISTOR	1/10W 18kΩ-J
R 254	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 255	103P405010	CHIP RESISTOR	1/10W 150kΩ-J
R 256	103P405070	CHIP RESISTOR	1/10W 470kΩ-J
R 257	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 258	103P403040	CHIP RESISTOR	1/10W 5.6kΩ-J
R 259	103P402000	CHIP RESISTOR	1/10W 390Ω-J
R 260	103P402000	CHIP RESISTOR	1/10W 390Ω-J
R 261	103P405000	CHIP RESISTOR	1/10W 120kΩ-J
R 262	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 263	103P477030	CHIP RESISTOR	1/10W 100kΩ-F
R 401	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 402	103P401020	CHIP RESISTOR	1/10W 82Ω-J
R 403	103P404050	CHIP RESISTOR	1/10W 47kΩ-J
R 404	103P404050	CHIP RESISTOR	1/10W 47kΩ-J
R 405	103P403000	CHIP RESISTOR	1/10W 2.7kΩ-J
R 406	103P403000	CHIP RESISTOR	1/10W 2.7kΩ-J
R 701	103P401090	CHIP RESISTOR	1/10W 330Ω-J
R 702	103P401090	CHIP RESISTOR	1/10W 330Ω-J
R 703	103P401090	CHIP RESISTOR	1/10W 330Ω-J
R 704	103P401090	CHIP RESISTOR	1/10W 330Ω-J
R 705	103P401090	CHIP RESISTOR	1/10W 330Ω-J
R 706	103P401090	CHIP RESISTOR	1/10W 330Ω-J
R 707	103P401090	CHIP RESISTOR	1/10W 330Ω-J
R 708	103P401090	CHIP RESISTOR	1/10W 330Ω-J
R 709	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 710	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 711	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J

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SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 712	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 713	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 714	103P402090	CHIP RESISTOR(MAIN PCB ASSY)	1/10W 2.2kΩ-J
R 714	103P474030	CHIP RESISTOR(FRONT2 PCB ASSY)	1/10W 5.6kΩ-F
R 715	103P402090	CHIP RESISTOR(MAIN PCB ASSY)	1/10W 2.2kΩ-J
R 715	103P472050	CHIP RESISTOR(FRONT2 PCB ASSY)	1/10W 1kΩ-F
R 716	103P403070	CHIP RESISTOR(MAIN PCB ASSY)	1/10W 10kΩ-J
R 716	103P474070	CHIP RESISTOR(FRONT2 PCB ASSY)	1/10W 8.2kΩ-F
R 717	103P474090	CHIP RESISTOR	1/10W 10kΩ-F
R 723	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 724	103P404020	CHIP RESISTOR	1/10W 27kΩ-J
R 725	103P400070	CHIP RESISTOR	1/10W 33Ω-J
R 726	103P470050	CHIP RESISTOR	1/10W 150Ω-F
R 727	103P475050	CHIP RESISTOR	1/10W 18kΩ-F
R 728	103P400010	CHIP RESISTOR	1/10W 10Ω-J
R 729	103P402080	CHIP RESISTOR	1/10W 1.8kΩ-J
R 730	103P402080	CHIP RESISTOR	1/10W 1.8kΩ-J
R 731	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 732	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 733	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 734	103P402080	CHIP RESISTOR	1/10W 1.8kΩ-J
R 735	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 736	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 737	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 738	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 739	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 740	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 741	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 742	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 743	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 744	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 745	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 748	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 749	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 750	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 753	103P473090	CHIP RESISTOR	1/10W 3.9kΩ-F
R 754	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 755	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 760	103P472010	CHIP RESISTOR	1/10W 680Ω-F
R 761	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 762	103P471010	CHIP RESISTOR	1/10W 270Ω-F
R 763	103P471010	CHIP RESISTOR	1/10W 270Ω-F
R 771	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 772	103P401000	CHIP RESISTOR	1/10W 56Ω-J
R 773	103P401000	CHIP RESISTOR	1/10W 56Ω-J
R 774	103P401000	CHIP RESISTOR	1/10W 56Ω-J
R 775	103P401000	CHIP RESISTOR	1/10W 56Ω-J
R 776	103P401000	CHIP RESISTOR	1/10W 56Ω-J
R 777	103P401000	CHIP RESISTOR	1/10W 56Ω-J
R 778	103P401000	CHIP RESISTOR	1/10W 56Ω-J
R 779	103P401000	CHIP RESISTOR	1/10W 56Ω-J
R 780	103P401000	CHIP RESISTOR	1/10W 56Ω-J
R 781	103P401000	CHIP RESISTOR	1/10W 56Ω-J
R 782	103P401000	CHIP RESISTOR	1/10W 56Ω-J
R 783	103P401000	CHIP RESISTOR	1/10W 56Ω-J
R 784	103P401000	CHIP RESISTOR	1/10W 56Ω-J
R 785	103P401000	CHIP RESISTOR	1/10W 56Ω-J
R 786	103P401000	CHIP RESISTOR	1/10W 56Ω-J
R 787	103P401000	CHIP RESISTOR	1/10W 56Ω-J
R 788	103P401000	CHIP RESISTOR	1/10W 56Ω-J
R 789	103P401000	CHIP RESISTOR	1/10W 56Ω-J
R 790	103P401000	CHIP RESISTOR	1/10W 56Ω-J
R 791	103P401000	CHIP RESISTOR	1/10W 56Ω-J
R 792	103P401000	CHIP RESISTOR	1/10W 56Ω-J
R 793	103P401000	CHIP RESISTOR	1/10W 56Ω-J
R 794	103P401000	CHIP RESISTOR	1/10W 56Ω-J
R 795	103P400090	CHIP RESISTOR	1/10W 47Ω-J
R 796	103P406010	CHIP RESISTOR	1/10W 1MΩ-J
R 922	103P371010	FUSE RESISTOR	1/4W 68Ω-J
R 932	109P052010	FUSE RESISTOR	1/4W 100Ω-J
⚠ R 991	109P115010	CEMENT RESISTOR	10Ω-J
		CAPACITORS AND TRIMMERS	
C 203	154P331030	CHIP CAPACITOR	CH50V 12pF-J
C 205	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 207	154P330030	CHIP CAPACITOR	CK50V 2pF-C
C 208	154P330030	CHIP CAPACITOR	CK50V 2pF-C
C 209	154P330080	CHIP CAPACITOR	CH50V 7pF-C
C 212	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 213	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 214	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 217	154P331090	CHIP CAPACITOR	CH50V 22pF-J
C 221	154P335090	CHIP CAPACITOR	CH50V 1000pF-J
C 222	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 227	154P335010	CHIP CAPACITOR	CH50V 470pF-J
C 229	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 230	154P335010	CHIP CAPACITOR	CH50V 470pF-J
C 232	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 237	141P130090	CHIP CAPACITOR	B50V 1000pF-K
C 238	141P130090	CHIP CAPACITOR	B50V 1000pF-K
C 240	154P331010	CHIP CAPACITOR	CH50V 10pF-C
C 241	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 243	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 245	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 247	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 248	141P130090	CHIP CAPACITOR	B50V 1000pF-K
C 250	154P331090	CHIP CAPACITOR	CH50V 22pF-J
C 251	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 254	141P135070	CHIP CAPACITOR	F16V 1μF-Z
C 259	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 401	141P130050	CHIP CAPACITOR	B50V 470pF-K
C 402	141P130050	CHIP CAPACITOR	B50V 470pF-K
C 403	141P131030	CHIP CAPACITOR	B50V 2200pF-K
C 404	141P131030	CHIP CAPACITOR	B50V 2200pF-K

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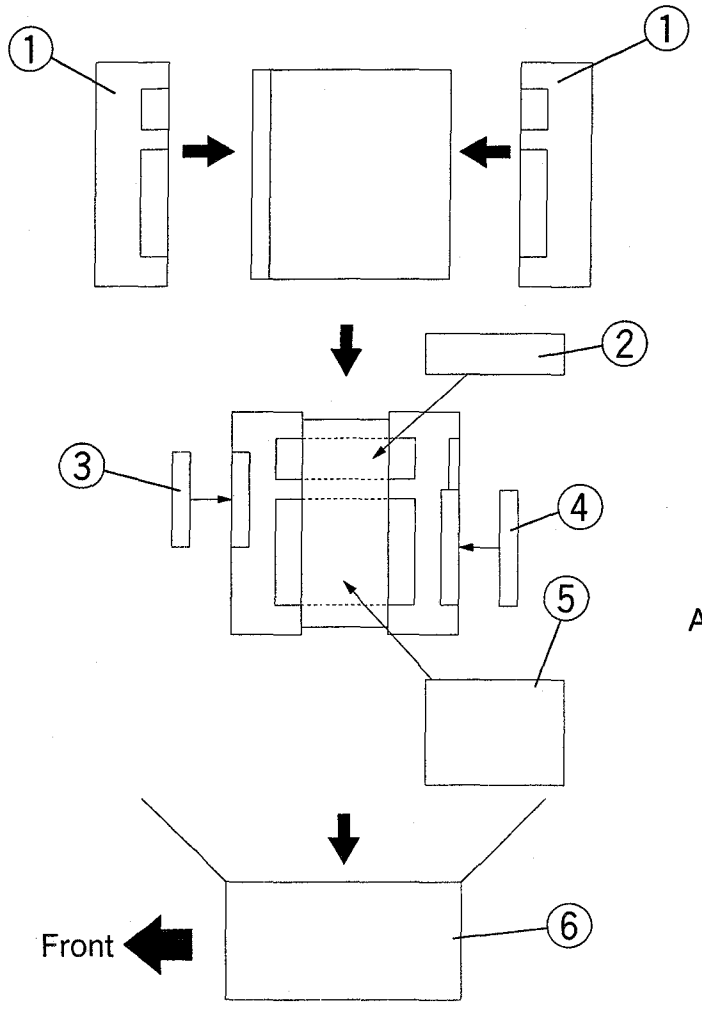
SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
C 406	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 408	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 704	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 708	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 709	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 710	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 711	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 712	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 713	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 714	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 715	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 716	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 720	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 721	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 723	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 724	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 725	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 727	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 730	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 771	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 772	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 773	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 775	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 776	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 777	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 778	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 779	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 780	154P330060	CHIP CAPACITOR	CH50V 5pF-C
C 781	154P330060	CHIP CAPACITOR	CH50V 5pF-C
C 782	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 783	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
⚠ C 901	189P153080	METAL POLYESTER AC-C	AC250V 0.047μF-M
⚠ C 902	189P153060	METAL POLYESTER AC-C	AC250V 0.22μF-M
⚠ C 904	189P094030	AC CERAMIC CAPACITOR	ACT4K B470pF-K
⚠ C 905	189P094030	AC CERAMIC CAPACITOR	ACT4K B470pF-K
⚠ C 906	189P153080	METAL POLYESTER AC-C	AC250V 0.047μF-M
⚠ C 907	189P094030	AC CERAMIC CAPACITOR	ACT4K B470pF-K
C 909	189P075010	PLASTIC-PP CAPACITOR	800V 0.01μF-J
⚠ C 920	185D107060	ELECTROLYTIC-C	H450V 330μF-M 30X45
		SWITCHES	
	439P035010	LIMIT SWITCH(OPEN PCB ASSY)	ESE11SV1
S 201	431C104010	DIP SWITCH	JKS3121-0104
S 701	439C041010	SWITCH	8BIT
S 702	432P189010	KEY BOARD SWITCH	
S 703	432P189010	KEY BOARD SWITCH	
S 704	432P189010	KEY BOARD SWITCH	
S 705	432P189020	KEY BOARD SWITCH	1-1 H=5
S 706	432P189020	KEY BOARD SWITCH	1-1 H=5
S 707	432P189020	KEY BOARD SWITCH	1-1 H=5
⚠ S 901	432C067020	PUSH SWITCH	2-1 AC250V 8A
		MISCELLANEOUS	
	411D030010	FERRITE CORE	TR-20-10-10
	243C165030	LEAD CARD	29PIN L=120
	243C212010	PAPER DETECTION SENS	
	243C214010	PAIR SENS	
	243C213010	PAPER DETECTION SENS	
	621D745010	PAPER CORE	PA6
⚠	451D046010	POWER JACK (3PIN)	INLET-AC-3P
	916B042001	POWER UNIT	
BZ301	286P011010	BUZZER	PKM22EPP-4001
CF771	299P185010	CERAMIC OSCILLATOR	CSA20.00MXZ04
⚠ F 901	283D102070	FUSE	T4AH
⚠ F 902	283D102070	FUSE	T4AH
IC702	449P013090	IC SOCKET	28PIN
J 701	451C066010	JACK	
K 201	287P058010	RELAY	G5A-237P DC12V
L 903	411D021010	FERRITE CORE	
⚠ PC901	268P049020	PHOTO COUPLER	TLP732
⚠ PC902	268P049020	PHOTO COUPLER	TLP732
⚠ RV901	265P105020	VARISTOR	ENC471D-10A
⚠ RV902	265P105020	VARISTOR	ENC471D-10A
TH901	264P705010	THYRISTOR	TF361M-A
⚠ Z 901	265P103010	VARISTOR	DSA-362MA-UL
		PRINTED CIRCUIT BOARD ASSY'S	
*⚠	936C099001	FRONT1 PCB ASSY	
*⚠	936C100001	FRONT2 PCB ASSY	
*⚠	936B090001	MAIN PCB ASSY	
*⚠	936D069001	MODE PCB ASSY	
*⚠	936D068001	OPEN PCB ASSY	
*⚠	936B091001	POWER PCB ASSY	
		MECHANICAL PARTS	
	956D097001	GEAR ASSY	
	521C009010	BELT	204-2GT-4
	622D572010	PLATEN BUSH	POM
	288P171010	COOLING FAN	0610-12
	552C007040	CUT WASHER	3.0X5.4-0.5(10pcs)
	596C330010	CUTTER	
	642C207020	DAMPER	2G50-J
	621C569010	GEAR (A)	POM
	630C153010	GEAR (B)	C3604
	630C154010	GEAR (C)	C3604
	596D408010	DAMPER GEAR	
	859D055030	GEAR GREASE	PG-641 20G
	859D055070	GEAR GREASE	MOLYTONE GREASE
	630C152010	PLATEN GEAR	
	621C518010	SWITCH LEVER	POM
	621C524010	PULLEY	
	621C523010	PULLEY GEAR	
	685C002070	RETAINING RING	E-4(10pcs)
	685C002090	RETAINING RING	E-6(10pcs)
	685C002030	RETAINING RING	E1.5(10pcs)
	685C002040	RETAINING RING	ES-2(10pcs)
	685C002060	RETAINING RING	E-3(10pcs)
	522C101010	ROLLER	
	669D375090	SCREW	M2.6X4CU(10pcs)
	669D245010	SCREW	M4X0.7-8(10pcs)

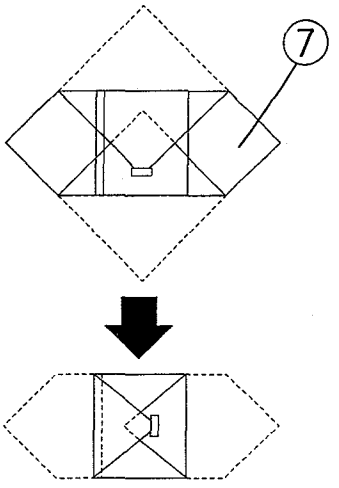
[W] : P500W [E] : P500E

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION	
	669D204030	SCREW	M3X5-0.5(10pcs)	
	669D425020	SCREW	4X8 NI(10pcs)	
	669D220020	SCREW	3X8 46LA005(10pcs)	
	669D212040	SCREW	3X10(10pcs)	
	669D229010	SCREW	M3X6 46LA005	
	572D681010	SPRING	A SUS304-WPB D1.1	
	572D040010	FE ARM SPRING	SUS304 WPB	
	572D880010	CAM SPRING	SUS304-WPB	
	572D878010	TENSION SPRING	SUS304	
	288P163010	STEP MOTOR	PK244-01A-C51	
	669D229090	SCREW	M3.0X4 46LA005	
	669D199060	SCREW	M2-4(10pcs)	
	442D111010	EARTH TERMINAL		
	460P169010	HEAD UNIT		
		COSMETIC PARTS		
	754C025010	POWER BUTTON		
	702B991010	DOOR		
	761C437010	DOOR CATCH		
	734C025010	LEVEL KNOB		
	734D579010	LEVER KNOB		
	771D051010	PAD		
	702C953030	PANEL DOOR		
⚠	701A614010	FRONT PANEL		
	590A540010	REAR PANEL		
	710A088010	TOP PANEL		
	669D197020	SCREW	D=M3 L=4	
		PACKING PARTS AND ACCESSORY		
⚠	246C064010	AC POWER CORD		[W]
⚠	242C795090	AC POWER CORD		[E]
	242D232010	BNC CABLE	BNC-BNC 2.0m	
	803A437010	CUSHION		
	871C952080	INSTRUCTION BOOK		
	801C296010	PACKING CASE		[W]
	801C296020	PACKING CASE		[E]
	831D183040	PACKING BAG	400X270	
	831D190030	PACKING SHEET	800X800	
*	939P221060	REMOTE HAND UNIT		
	857P005010	CLEANING PAPER		
	859C435070	JIG	EXTENSHION-CORD(10P)	

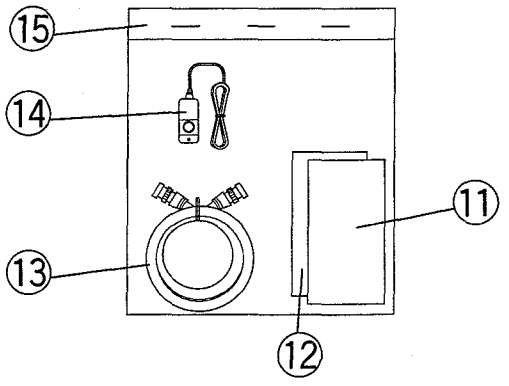
PACKING PARTS



How to pack product
Pack with gloss side out.



Accessory



ITEM NO.	PARTS NO.	PARTS NAME	DESCRIPTION
1	803A437010	CUSHION	
⚠ 2	246C064010	AC POWER CORD	[W]
⚠ 3	242C795090	AC POWER CORD	[E]
4	☆	PAPER	(859P026030)
5	☆	ACCESSORY	(859D151001) [W]
5	☆	ACCESSORY	(859D151002) [E]
6	801C296010	PACKING CASE	[W]
6	801C296020	PACKING CASE	[E]
7	831D190030	PACKING SHEET	800X800
		ACCESSORY	
11	871C952080	INSTRUCTION BOOK	
12	857P005010	CLEANING PAPER	
13	242D232010	BNC CABLE	BNC-BNC 2.0m
* 14	939P221060	REMOTE HAND UNIT	
15	831D183040	PACKING BAG	400X270

☆:Not a stocked item

CONNECTOR-E
7-1PIN

SM

STEP-
MOTOR

CONNECTOR-S
3P

HM

HEAD
UP/DOWN
MOTOR

CONNECTOR-S
2P

FM

FAN
MOTOR

PCB-SENSOR

S503

S502

HEAD
DETECTION

CONNECTOR-E
3P

MS

PAPER
DETECTION1

PAPER
DETECTION2

CONNECTOR-S
4P

SP

PAPER
DETECTION2

CONNECTOR-E
4P

SR

PCB-SENSOR

S501

DOOR
DETECTION

PAPER
DETECTION1

PT

CONNECTOR-E
2P

PCB-FRONT1

P.①

PRINT

PCB-MAIN

P.②

:BUSY

PRINT

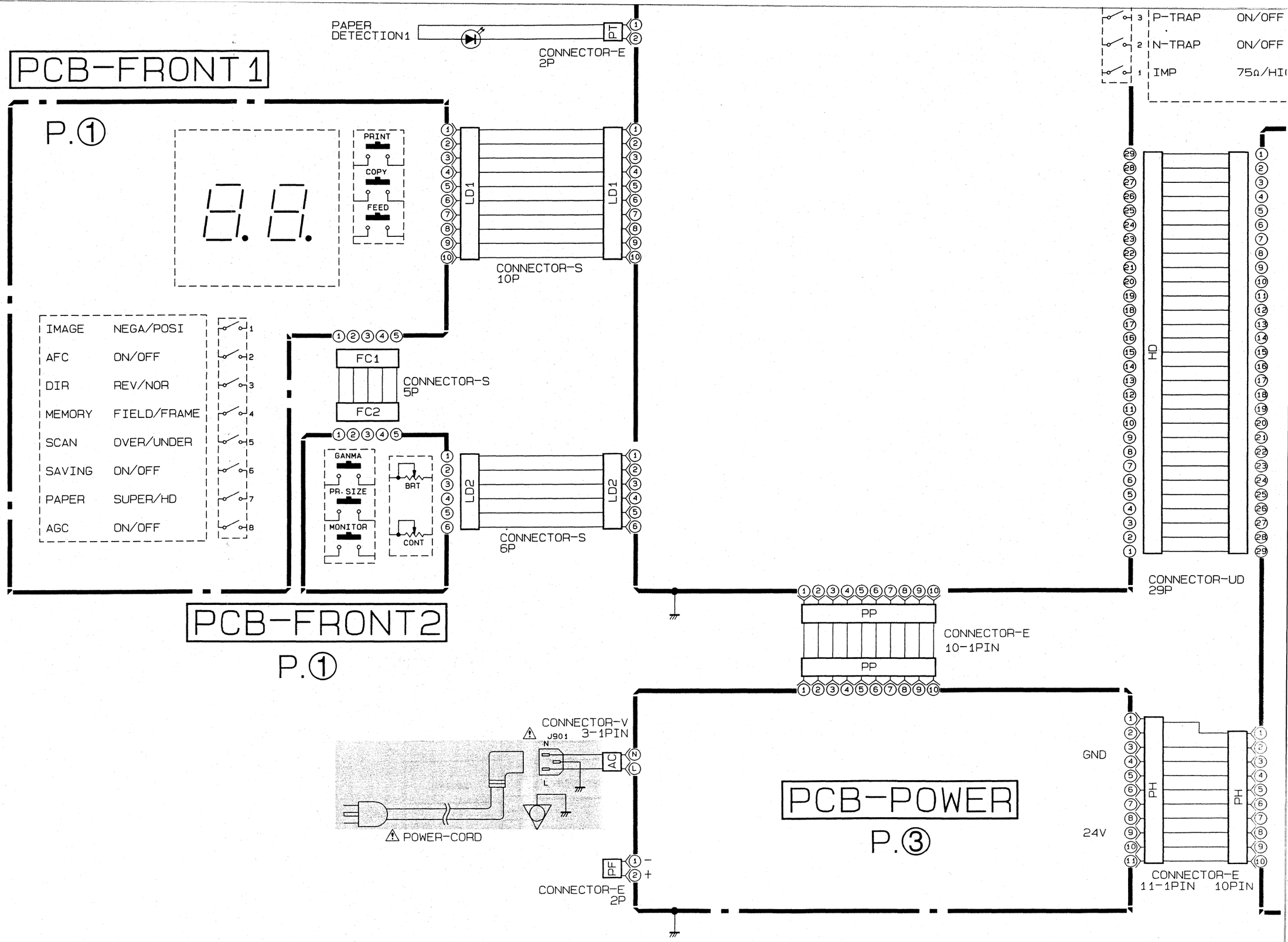
VIDEO
IN
(BNC)

VIDEO
OUT
(BNC)

S201
SW-DIP 4P

MODE-SW

4		
3	P-TRAP	ON/OFF
2	N-TRAP	ON/OFF
1	IMP	75Ω/HI(


PCB-FRONT1
P.①
PAPER DETECTION1
PT
CONNECTOR-E 2P
PRINT
COPY
FEED
LD1
CONNECTOR-S 10P
IMAGE NEGA/POSI
AFC ON/OFF
DIR REV/NOR
MEMORY FIELD/FRAME
SCAN OVER/UNDER
SAVING ON/OFF
PAPER SUPER/HD
AGC ON/OFF
FC1
FC2
CONNECTOR-S 5P
GANMA
PR. SIZE
MONITOR
BRT
CONT
LD2
CONNECTOR-S 6P
P-TRAP ON/OFF
N-TRAP ON/OFF
IMP 75Ω/HI
HD
CONNECTOR-UD 29P
PCB-FRONT2
P.①
PP
CONNECTOR-E 10-1PIN
CONNECTOR-V 3-1PIN
J901
AC
POWER-CORD
PF
CONNECTOR-E 2P
PCB-POWER
P.③
GND
24V
PH
CONNECTOR-E 11-1PIN 10PIN

CONNECTOR-E
7-1PIN

SM

CONNECTOR-S
3P

HM

CONNECTOR-S
2P

FM

CONNECTOR-E
3P

MS

CONNECTOR-S
4P

SP

CONNECTOR-E
4P

SR

PT

CONNECTOR-E
2P

LD1

:BUSY
PRINT

VIDEO
IN
(BNC)

VIDEO
OUT
(BNC)

REMOTE-JACK

PRINT

REMOTE-UNIT

PCB-MAIN
P.②

S201
SW-DIP 4P

MODE-SW

4		
3	P-TRAP	ON/OFF
2	N-TRAP	ON/OFF
1	IMP	75Ω/HIGH

SEG1
SEG2
P10
P11
P12
P13
P14
P15
P16
P17

R701 330
R702 330
R703 330
R704 330
R705 330
R706 330
R707 330
R708 330

D501 D502

S705
(PRINT)

S706
(COPY)

S707
(FEED)

Q732
IMZ1/XN

Q733
IMZ1/XN

Q734
IMZ1/XN

0V
3.3V
.1V

S201
SW-DIP 4P

MODE-SW

4		
3	P-TRAP	ON/OFF
2	N-TRAP	ON/OFF
1	IMP	75Ω/HIGH

R708
330

D501 D502

PT
CONNECTOR-E
2P

LD1
TOR-S

LD2
CTOR-S

HD
CONNECTOR-UD
29P

THERMAL-
HEAD

PP
PP
CONNECTOR-E
10-1PIN

CONNECTOR-V
3-1PIN
J901
AC
N
L

PCB-POWER
P.③

GND
24V

PH
PH
CONNECTOR-E
11-1PIN 10PIN

PF
CONNECTOR-E
2P

IMAGE	NEGA/POSI
AFC	ON/OFF
DIR	REV./NOR
MEMORY	FIELD/FRAME
SCAN	OVER/UNDER
SAVING	ON/OFF
PAPER	SUPER/HD
AGC	ON/OFF

S701
SW-DIP8

Q734
IMZ1/XN
0V 3
3.3V 2
0V 1

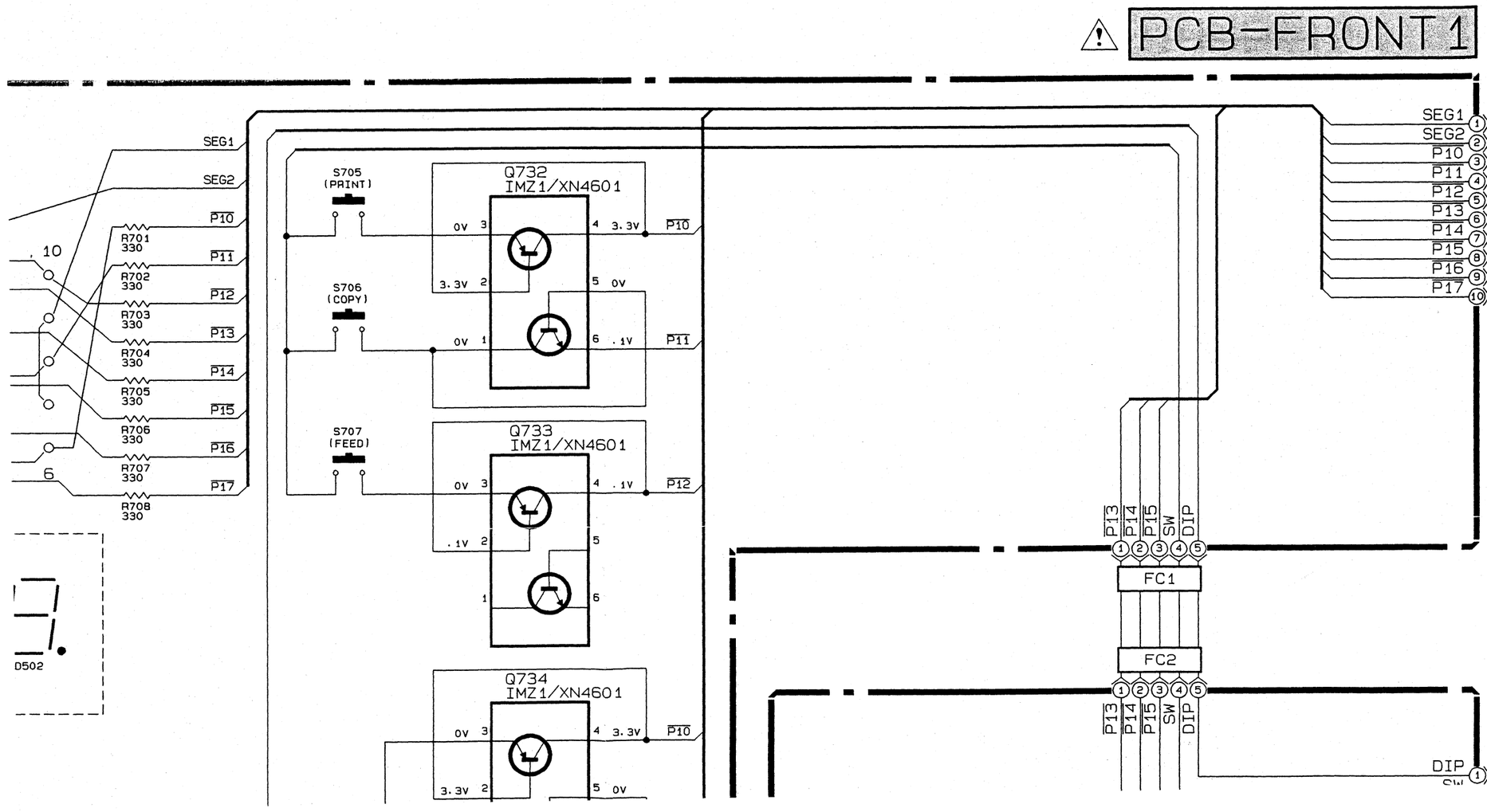
Q735
IMZ1/XN
0V 3
.1V 2
0V 1

Q736
IMZ1/XN
0V 3
.1V 2
0V 1

Q737
IMZ1/XN
0V 3
.1V 2
0V 1

10 | 11 | 12 | 13 | 14 | 15 | 16

SCHEMATIC DIAGRAM
MODEL : P500W
P500E



- NOTE
- DC voltages were measured from points indicated to the circuit ground with a high-Z voltmeter.
- Waveforms were taken with step wave (provided with window) signal.
- TP6A, etc. show Test Points.
- CAPACITORS

Value	Not indicated	PF, for numbers more than 1 μF, for numbers less than 1	
Dielectric Strength	Not indicated :50V		
Tolerance	Not indicated =±10%	No Tolerance is indicated for electrolytic capacitors and ±20%	
	G=±2% J =±5% K=±10% M=±20%	P =+100% −0% Z =+80% −20%	Q=+30% −10% T =+200% −0%	C =±0.25PF D =±0.5PF F =±1PF G=±2PF
Sort	I Parts except for chips	Not indicated : Ceramic capacitor (MP) : Polyester capacitor (PP) : Polypropylene film capacitor (ALM) : Aluminus electrolytic capacitor (TF) : Twin film capacitor (SC) : Semiconductor ceramic capacitor (MP) : Metalized paper (MPP) : Metalized plastic film capacitor (MMF) : Metalized polyester capacitor (MF.PP) : Polyester polypropylene film capacitor (PS) : Styrol capacitor (TAN)or(TANT) : Tantalum capacitor : Electrolytic capacitor (BP)or(NP) : Non polarized electrolytic capacitor	
	II Chips	Not indicated : Ceramic capacitor chip : Electrolytic capacitor (BP)or(NP) : Non polarized electrolytic capacitor chip	
Characteristic (only ceramic capacitor)	Not indicated : F or B(high dielectric percentage) CH,SL,etc. : Temperature compensating types		

- Resistors

Value	Not indicated = Ω K = kΩ(1000Ω) M = MΩ(1000kΩ)	
Wattage	Parts except for chips	Not indicated = 1/4W or 1/6W
	Chips	Not indicated = 1/10W
Tolerance	Not indicated =±5% D=±0.5% J=±5% F =±1% K=±10%	
Short	I Parts except for chips	Not indicated : Carbon resistor (S) : Fixed composition resistor (MB) : Metal oxide film resistor(type B) (CE) : Cemented resister (W) : Wire wound resister (M) : Metal film resister (MPC) : Metal plate cement resister (ML) : Metal liner resister
	II Chip	Not indicated : Chip resistor

- This is a basic schematic diagram. Some sets may be subject to modification according to engineering improvement.

SPECIFIC SYMBOL	
Zener Diode	Crystal unit
Varicap	

D502

Q734 IMZ1/XN4601
Q735 IMZ1/XN4601
Q736 IMZ1/XN4601
Q737 IMZ1/XN4601

IMAGE	NEGA/POSI
AFC	ON/OFF
DIR	REV./NOR
MEMORY	FIELD/FRAME
SCAN	OVER/UNDER
SAVING	ON/OFF
PAPER	SUPER/HD
AGC	ON/OFF

S701
SW-DIP8

FC1
FC2
P13 P14 P15 SW DIP

S702 (GANMA)
S703 (PR. SIZE)
S704 (MONITER)

Q730 IMZ1/XN4601
Q731 IMZ1/XN4601

DIP
SW
BRT
CONT
9V
LD2
CONNECTOR-S 6P

R716 F-8.2K
VR702 2K
(R718)
R717 F-910K
R714 F-5.6K
VR701 5K
R715 F-1K
C730 .01

PCB-FRONT2

Short	I	Parts except for chips	Not indicated : Carbon resistor (S) : Fixed composition resistor (MB) : Metal oxide film resistor(type B) (CE) : Cemented resister (W) : Wire wound resister (M) : Metal film resister (MPC) : Metal plate cement resister (ML) : Metal liner resister
	II	Chip	Not indicated : Chip resistor

- This is a basic schematic diagram. Some sets may be subject to modification according to engineering improvement.

SPECIFIC SYMBOL

- Zener Diode
- Varicap
- Thermistor
- Fusible Resistor
- Crystal unit
- LE Diode
- Photo Diode
- Ceramic filter
- PNP DIGITAL TRANSISTOR
- NPN DIGITAL TRANSISTOR

SERVICING PRECAUTION

SYMBOLS INDICATE COMPONENTS HAVING SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY AND PERFORMANCE. THERFORE REPLACEMENT OF ANY SAFETY PARTS SHOULD BE IDENTICAL IN VALUE AND CHARACTERISTICS. FOR ACCURACY OF THE REPLACEMENT REFER TO THE PARTS LIST OF SERVICE MANUAL.
DON'T DEGRADE THE SAFETY OF THE VIDEO COPY PROCESSOR THROUGH IMPROPER SERVICING.

1 2 3 4 5 6 7 8 9

A B C D E F

PCB-POWER PP CONNECTOR-E 10-1P

PP

12G +12V GND 14V HEAD ON GND 24G +24V

C703 16V 470μ C705 6.3V 1000μ C704 .01 C725 2-.01 14V C724 2-.01 24V

TP30

Q712 DTC124EK/UN2212 HEAD-CONTROL

HON

CONNECTOR-E 7-1P

SM A /A B /B

STEP-MOTOR

IC401 SLA7024M DRIVE

R408 1W1 R-METAL C403 2200P R406 2.7K C401 470P C402 470P R403 47K R404 47K R401 47 R402 82 R405 2.7K C404 2200P R407 1W1 R-METAL

M1B M1A M1B M1A

CONNECTOR-S 3P

HM HM- HM+

HEAD-UP/DOWN MOTOR

CONNECTOR-S 2P

FM FM- FM+

FAN-MOTOR

CONNECTOR-S 3P

MS

PCB-SENSOR

S503 S502

R749 10K R750 10K IO8 IO9

CONNECTOR-S 4P

SR

PAPER-DETECTION1 PAPER-DETECTION2

R780 F-680 PAP1

Q720 2SC3052F.G

3.8V 2.5V 1.8V PAP2

R765 F-870 SR PAP2

CONNECTOR-E 4P

PAPER-DETECTION2

PCB-SENSOR S501

C723 .01 R781 10K R754 100K R753 F-3.9K

CONNECTOR-E 2P

PT

PAPER-DETECTION1

Q721 2SC3052F.G

3.8V 2.5V 1.8V PAP1

R763 F-870

IC402 TA7291S HEAD DRIVE

C406 .1 C407 16V 220μ 14V

IC403 TA7291S FAN DRIVE

C408 .1 FM

C701 2-.1 C720 2-.1 C719 16V 100μ C718 16V 100μ

Q714 FMG2/XN1213 BUZZER-DRIVE

R737 2.2K R736 2.2K 12V C710 .01 R738 3K BZ2301 PKM22EPP-4001

D701 HC2838

IC705 BR93LC56F EEPROM

C707 101 330μ R729 1.8K R730 1.8K R731 10K R732 10K R735 1K R734 1.8K R733 10K

IC706 PST529C RESET

R724 27K C706 501 4.7μ RST

Q713 DTC124EK /UN2212 WATCH-DOG

WD

IC701 M50734S

P04 P05 P06 P07 P10 P11 P12 P13 P14 P15 P16 P17 P20 P21 P22 P23 P24 P25 P26 P27 P30 P31 P32 P33 P34 P35 P36 P37 RST XIN XOUT GND

DIP SEG1 1.8-2.7V SEG2 1.8-2.7V M1A M1B M1A M1B SW HM+ HM- BZ CLK DI LD CS SK IO RSI IO

STB TH THG

R785 33 R786 F-150 C708 2-.1 R787 F-18K C709 .01 R788 10

C771 CSA20MXZ040 20MHZ C780 CH C781 CH R796 1M R795 47

TP3

C778 2-.1

IC775 M60052-0216FP HEAD-DRIVE

IC777 SC7S08F

IC771 UPD65647GD-020-5BD MEMORY-CONTROL

C775 2-.1

C783 2-.1

L771 4.7μH H-CLK

R771 220 R772 56 H.STB R773 56 RST R774 56 LTH R775 56 D20 R776 56 D19 R777 56 D18 R778 56 D17 R779 56 D16 R780 56 D15 R781 56 D14 R782 56 D13 R783 56 D12 R784 56 D11

IC779 SC14S71F

IC778 SN74HC74DB /SN74HC74ADB

H-STB LTH

THERMAL-HEAD HD

IC779
SC14S71F

IC778
SN74HC74DB
/SN74HC74ADB

IC775
M60052-0216FP
HEAD-DRIVE

IC777
SC7508F

IC771
UPD65647GD-020-5BD
MEMORY-CONTROL

IC776
M5M5256BFP-85
/UPD43256AGU-85LL
32K SRAM

THERMAL-HEAD
CONNECTOR-S 10P
CONNECTOR-S 6P
PCB-FRONT1 LD1
PCB-FRONT2 LD2

Q701 2SA1235F.G LED-DRIVE1
Q702 2SA1235F.G LED-DRIVE2
Q703 FMG2/XN1213 LED-DRIVE3
Q704 FMG2/XN1213 LED-DRIVE4
Q705 FMG2/XN1213 LED-DRIVE5
Q706 FMG2/XN1213 LED-DRIVE6
Q707 FMG2/XN1213 LED-DRIVE7
Q708 IMZ1/XN4601

IC772
HM514260ALJ-8
/UPD424260LE-70
4M DRAM

IC773
HM514260ALJ-8
/UPD424260LE-70
4M DRAM

①1Vp-p
②1.5Vp-p
③5Vp-p
(TIME/DIV 5mSEC)
④3.5Vp-p
⑤3.5Vp-p
⑥2Vp-p

IC705 BR9

INSTRUCTION CONTROL CLOCK GENERATION
INSTRUCTIO REGISTER
DUMMY BIT

P500W
P500E

②

PCB-POWER PP CONNECTOR-E 10-1P

PP

+12V GND 14V HEAD ON GND 24G +24V

C703 16V 470μ C704 .01 3.2V C705 6.3V 1000μ C706 2~.01 14V C707 2~.01 24V

TP30

Q712 DTC124EK/UN2212 HEAD-CONTROL

R401 470

IC402 TA7291S HEAD DRIVE

C406 .1 C407 25V 220μ

IC403 TA7291S FAN DRIVE

C408 .1

C721 2~.1 C720 2~.1 C719 16V 100μ C718 16V 100μ

Q714 FMG2/XN1213 BUZZER-DRIVE

R737 2.2K R736 2.2K C710 .01 R738 1K

BZ301 PKM22EPP-4001

D701 MC2838

IC705 BR93LC56F EEPROM

IC706 PST529C RESET

Q713 DTC124EK /UN2212 WATCH-DOG

R724 27K C706 50V 4.7μ R723 100

R729 1.8K R730 1.8K R731 10K R732 10K R735 1K R734 1.8K R733 10K

IC701 M50734SP CPU

C711 2~.1 R739 100K TP31

IC702 HN27C256AG-12 /M27C2568-12F1 32K ROM

C718 2~.1

IC703 CXK5864CM-70LL 8K SRAM

C719 2~.1

IC704 TC74HC4053AF

C722 2~.1

IC202 L78N09 /AN78N09 9V REG

C811 16V 220μ C812 2~.1

IC201 HA11465 VIDEO-

C775 2~.1 C774 4.7V 470μ C773 2~.1

IC771 UPD65647GD-020-5BD MEMORY-CONTROL

IC207 M540576PF A/D CONV.

C244 6.3V 3300μ L205 10μH C245 2~.1

C212 2~.1 C213 2~.1 R215 F-1.3K R216 F-1K R217 F-4.7K

Q208 IMZ1 AD-RE

R244 5K

Q207 IMZ1 AD-RE

R245 1K

C237 1000 C238 1000

R251 18K R250 82K R248 82K

C771 C3A20MHZ040 20MHZ C780 CH R796 1M R795 47 C781 CH

C779 2~.1 C778 2~.1

IC775 M60052-0216FP HEAD-DRIVE

IC777 S87C98F

TP3 TP2

SYNC

H-STB LTH

STB TH THG

R725 33 R726 F-150 C708 2~.1 R727 F-18K C709 .01 R728

INT SR XT5 XT6 CONT PAP1 PAP2 CONT

AD0 AD1 AD2 AD3 AD4 AD5 AD6 AD7

X15

IC775
M60052-0216FP
HEAD-DRIVE

IC771
UPD65647GD-020-5BD
MEMORY-CONTROL

IC777
SC7508F

IC208
MB40776PF
/MB40776HPF
D/A CONV.

IC776
M5M5256BFP-85
/UPD43256AGU-85LL
32K SRAM

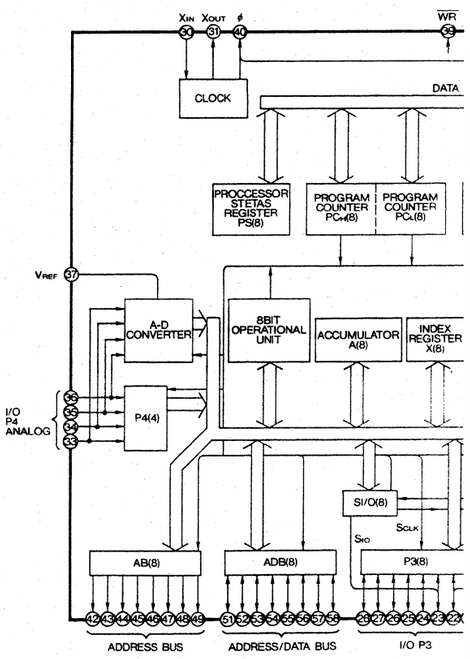
IC772
HM514260ALJ-8
/UPD424260LE-70
4M DRAM

IC773
HM514260ALJ-8
/UPD424260LE-70
4M DRAM

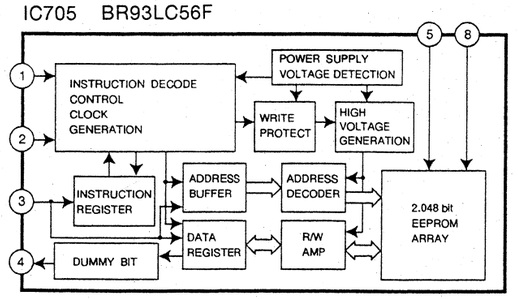
IC206
MC74HC00AF
OSC

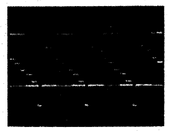
Q708
IMZ1/XN4601

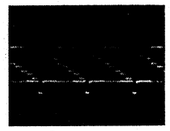
IC701 M50734SP



IC705 BR93LC56F




①1Vp-p


②1.5Vp-p

③5Vp-p
(TIME/DIV 5mSEC)

④3.5Vp-p

⑤3.5Vp-p

⑥2Vp-p

1 | 12 | 13 | 14 | 15 | 16

⚠ PCB-MAIN

IC703
CXK5864CM-70LL
8K SRAM

IC210
NJM2233BM
AGC ON/OFF SW

IC209 M51489L AGC

IC704
M62352GP
D/A CONV.

Q211
2SC3052F.G

IC202
L78N09
/AN78N09
9V REG

IC201
HA11465A
VIDEO-AMP

Q208
IMZ1/XN4601
AD-REF2

Q207
IMZ1/XN4601
AD-REF1

Q203
2SC3052F.G
VIDEO-AMP3

Q202
2SC3052F.G
VIDEO-AMP2

Q201
2SC3052F.G
VIDEO-AMP1

Q204
DTA124EK/UN2112
SYNC-INVERT

Q209
2SA1037K-S
VIDEO-OUT

IC203
NJM78L05A
5V REG

Q210
DTC114YK
RELAY-DRIVE

Q716
DTC124EK
/UN2212
COPY-IN2

Q715
DTA124EK
/UN2212
COPY-IN1

Q718
DTC124EK
/UN2212
PRINT-IN2

Q717
DTA124EK
/UN2112
PRINT-IN1

Q719
DTC124EK/UN2212
BUSY-OUT

J701
REMOTE

J201
VIDEO-IN
VIDEO-OUT

S201
SW-DIP 4P
MODE-SW

PAL TRAP
NTSC TRAP
IMPEDANCE

L208 4.43MHz COIL-TRAP
L201 3.58MHz COIL-TRAP

K201
SA-237PDC12V
/FBR48MD012-S

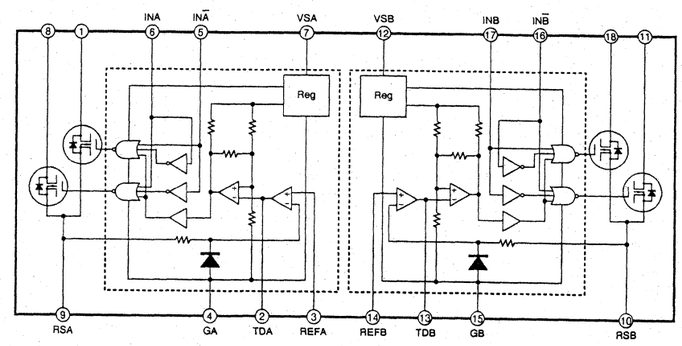
PART-SUB
PRT

AGC-ON/OFF

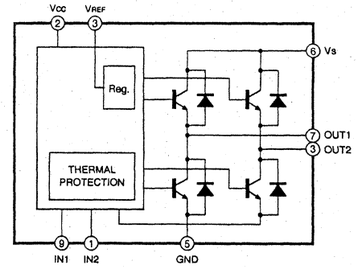
GAIN CONTROL
DLY'D SYNC
AGC AMP
DLY'D SYNC GEN.
LPF
FILTER
SYNC SEP.
CLAMP PULSE GEN.
CLAMP
AGC DET.
ADJ

SYNC SEP.
CLMP

IC401 SLA7024M

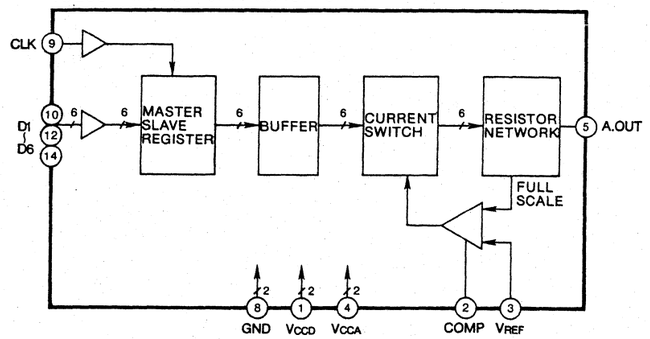


IC402,403 TA7291S

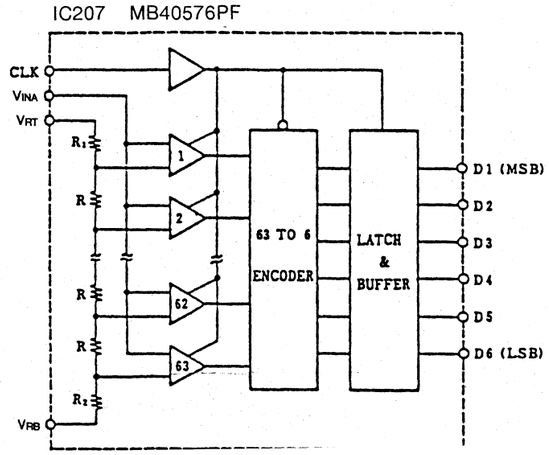


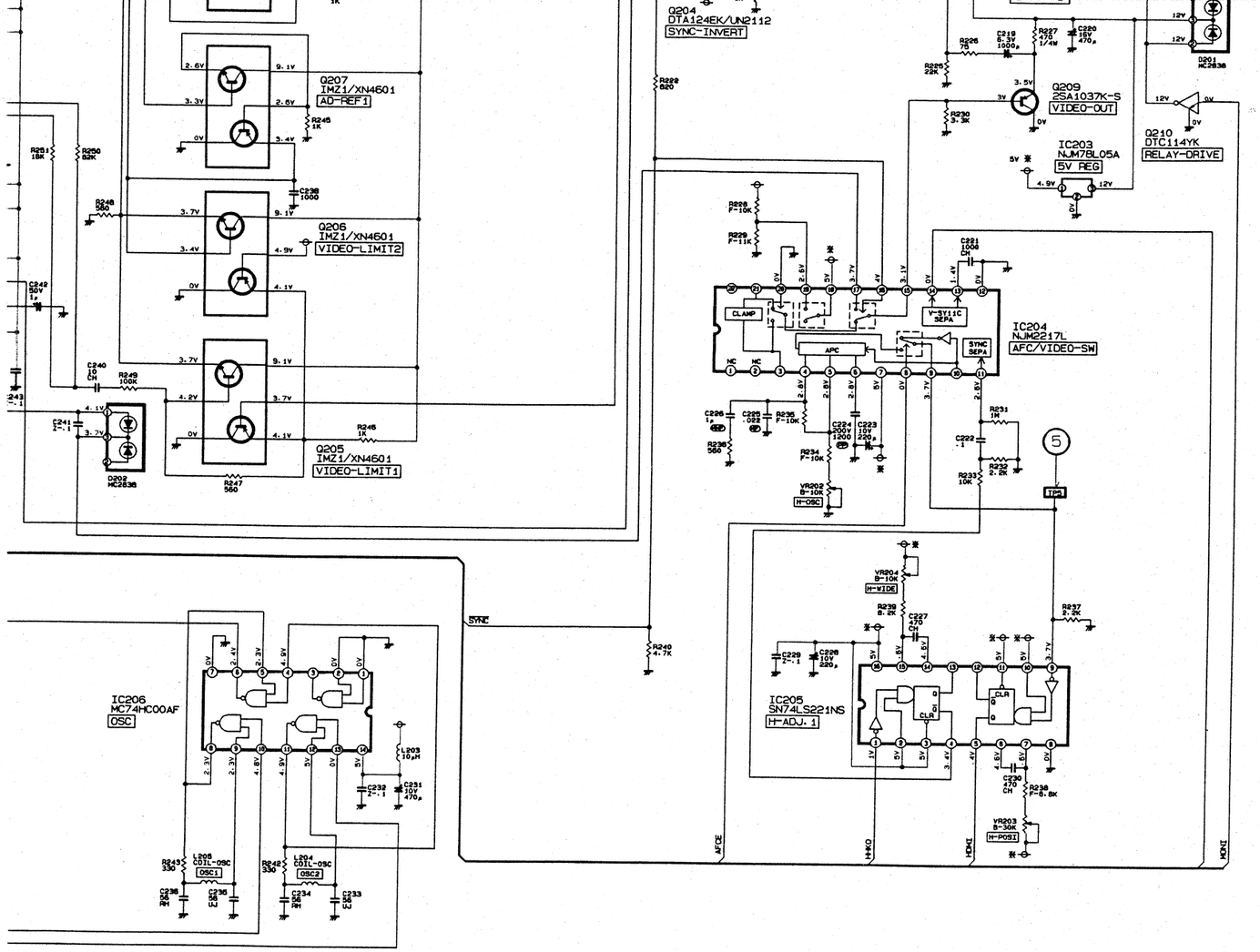
INPUT		OUTPUT		MODE
IN1	IN2	OUT1	OUT2	
0	0	∞	∞	STOP
1	0	H	L	CW/CCW
0	1	L	H	CCW/CW
1	1	L	L	BRAKE

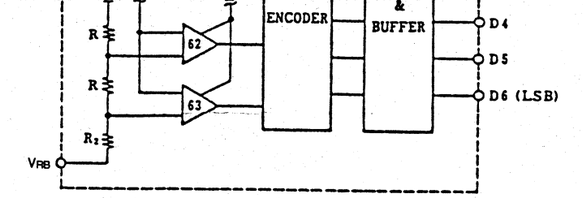
IC208 MB40776PF/MB40776HPF



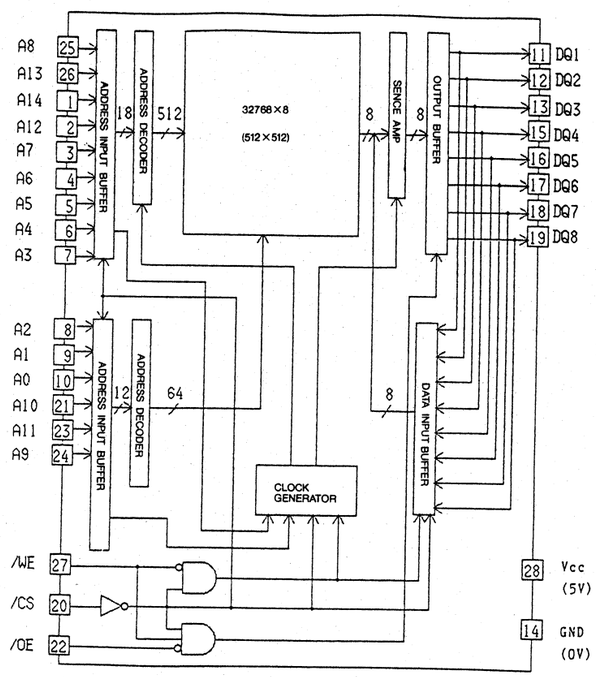
IC207 MB40576PF



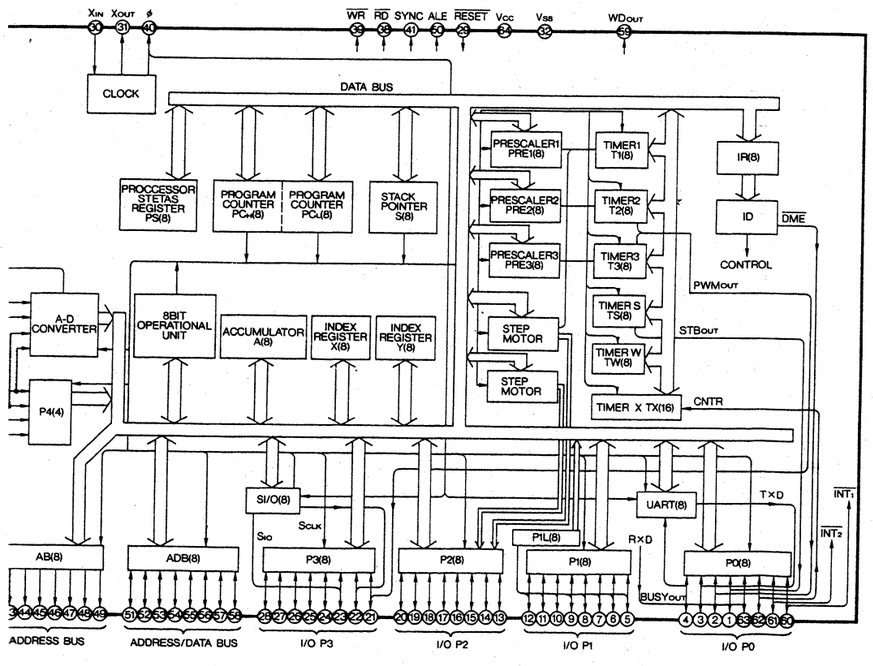




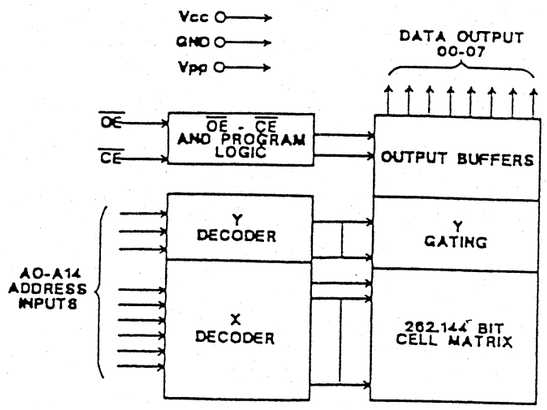
IC776 M5M5256BFP–85μPD43256AGU–85LL



701 M50734SP



IC702 HN27C256AG–12/M27C256B–12F1

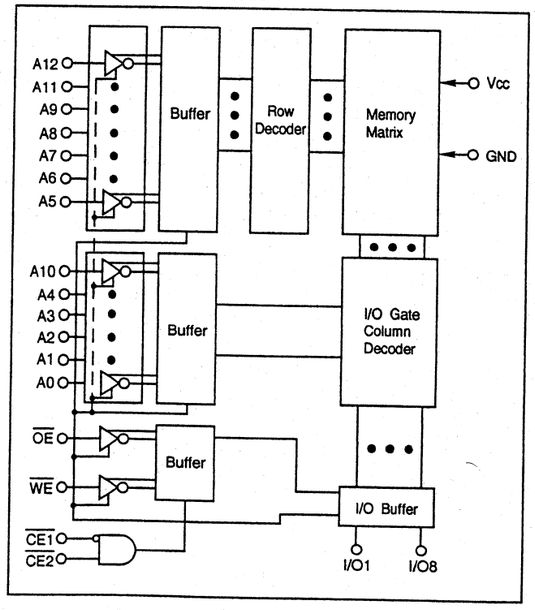


OPERATING MODES

MODE	PINS				
	$\overline{CE}$	OE	A9	V_{PP}	OUTPUT
READ	L	L	X	V_{CC}	D_{OUT}
OUTPUT DISABLE	L	H	X	V_{CC}	HIGH Z
STANDBY	H	X	X	V_{CC}	HIGH Z
PROGRAM	L	H	X	V_{PP}	D_{IN}
PROGRAM VERIFY	H	L	X	V_{PP}	D_{OUT}
PROGRAM INHIBIT	H	H	X	V_{PP}	HIGH Z
ELECTRONIC SIGNATURE	L	L	V_H	V_{CC}	CODE

NOTE : X = Don't care ; V_H = 12V ± 0.5V; H = High ; L = Low

IC703 CXK5864CM–70LL



LEAD DRESS

The figure shows the leads fastened with each clamp. Refer to the clamp list fordetail
The lead wires clamped are listed in the table below.

Note: The inner wires are clamped so that do not come close to heat generating or high voltage components After servicing route all wires in their original position.

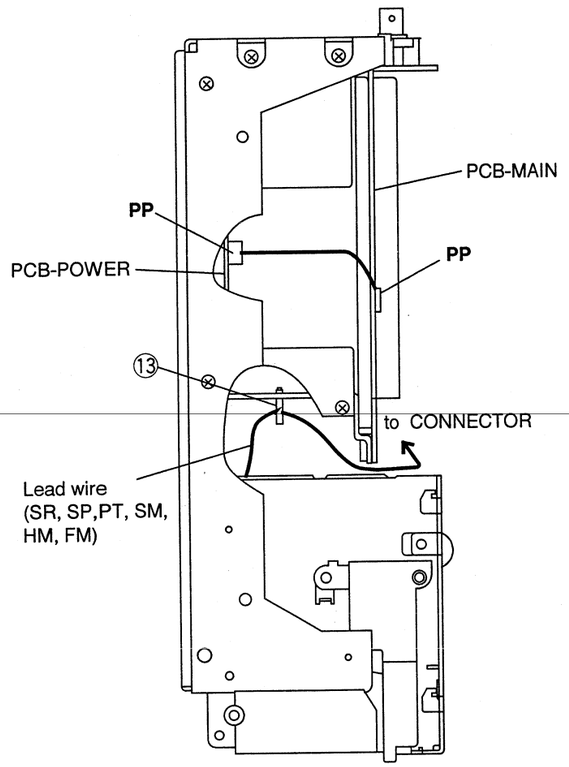


Fig. 1 (Left view of set)

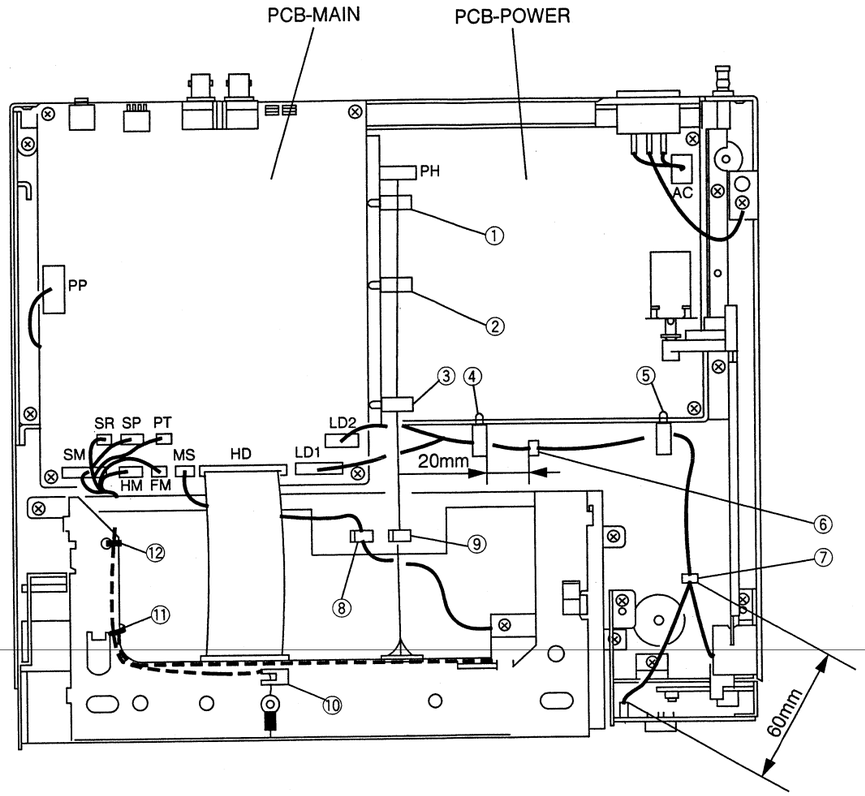


Fig. 2 (Top view of set)

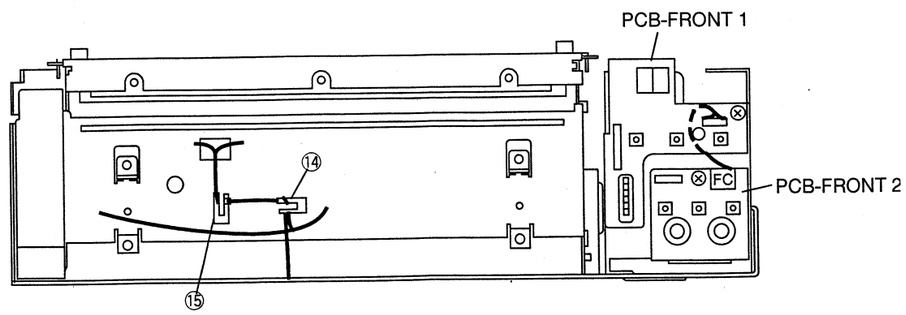


Fig. 3 (Front view of set)

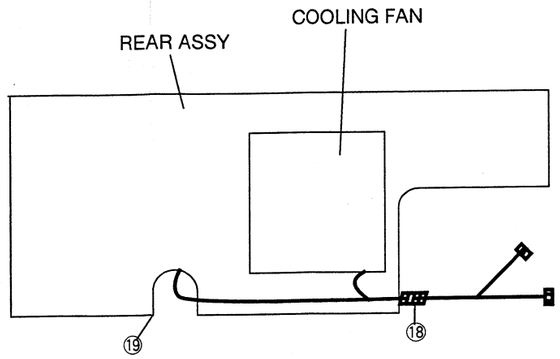
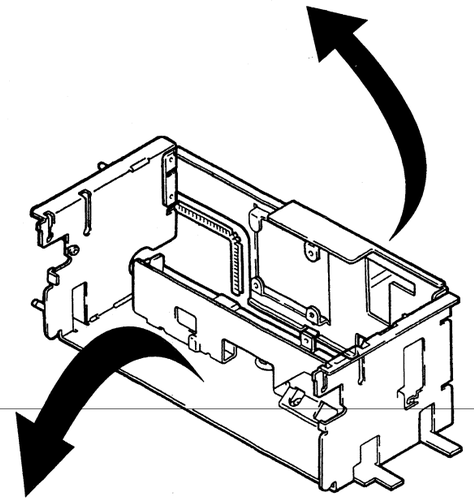


Fig. 4 (Rear view of REAR ASSY)



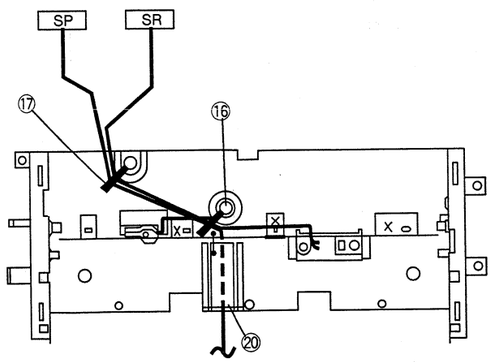
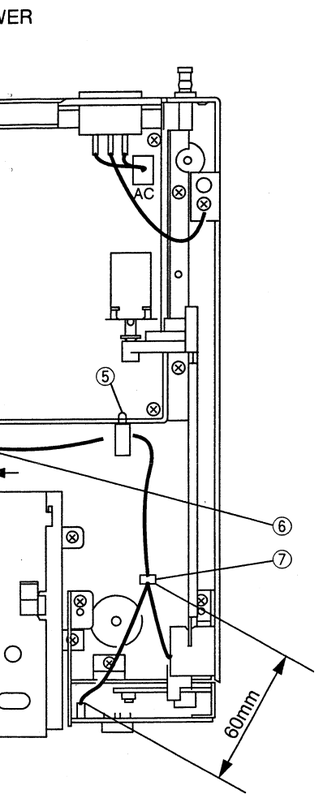
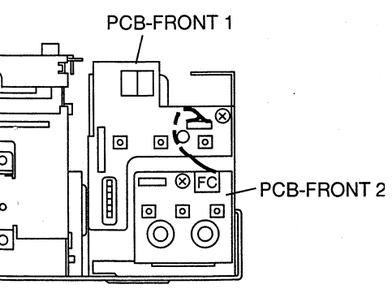


Fig. 5 (Top view of FRAME ASSY)





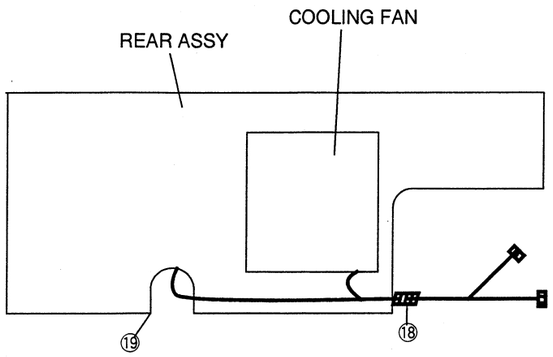
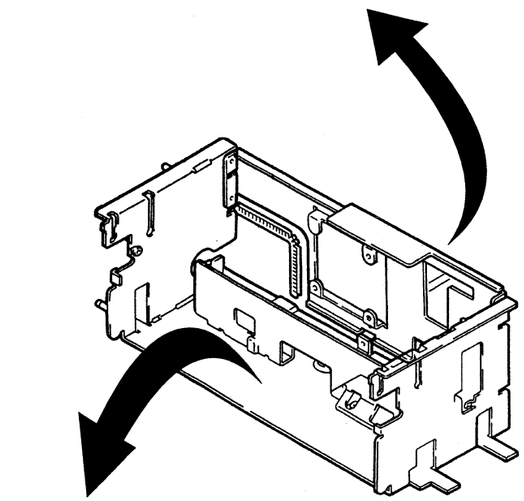


Fig. 4 (Rear view of REAR ASSY)



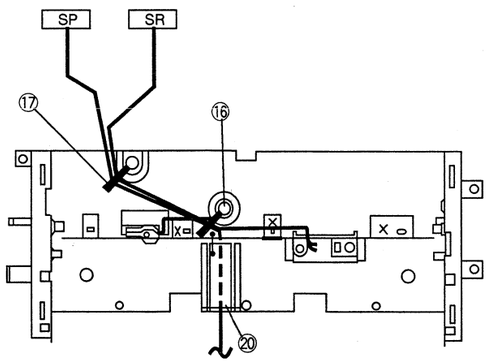
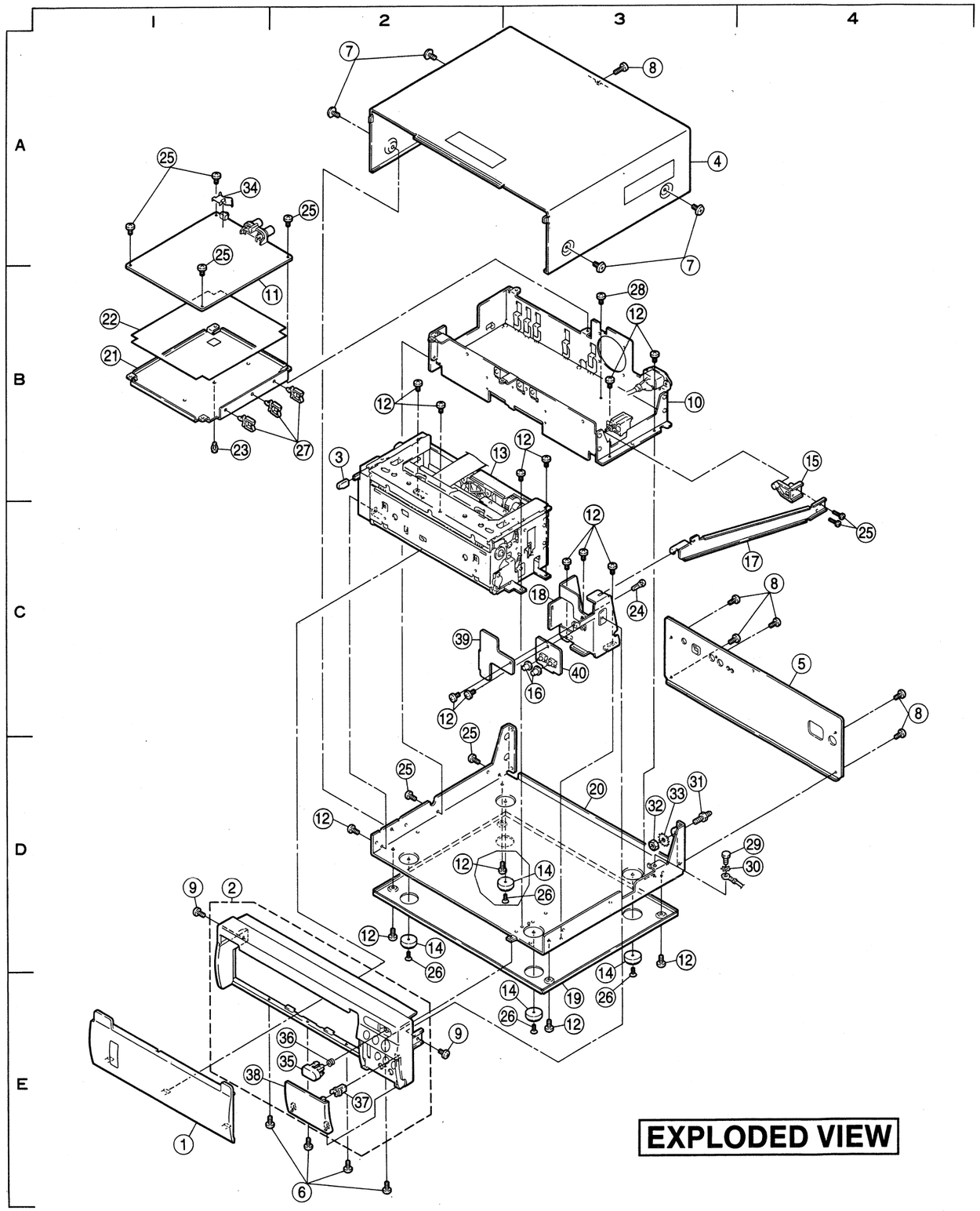


Fig. 5 (Top view of FRAME ASSY)

CLAMPED FOR CONNECTOR LEAD

CONNECTOR LEAD	CLAMPER NO.			NOTE
AC	PCB-POWER		POWER JACK ASSY	Fig. 2
FC1– FC2	PCB-FRONT 1		PCB-FRONT 2	Fig. 3
FM	PCB-MAIN	⑬⑱	COOLING FAN	Fig. 1→Fig. 4
HD	PCB-MAIN		HEAD UNIT	Fig. 2
HM	PCB-MAIN	⑬⑱⑲	DC MOTOR ASSY	Fig. 1→Fig. 4
LD1	PCB-MAIN	④⑥⑤⑦	PCB-FRONT 1	Fig. 2
LD2– LD2	PCB-MAIN	④⑥⑤⑦	PCB-FRONT 2	Fig. 2
MS	PCB-MAIN	⑧	PCB-MODE (HEAD DETECTION SENS)	Fig. 2
PH	PCB-POWER	①②③⑨	HEAD UNIT	Fig. 2
PT	PCB-MAIN	⑬⑫⑪⑩	PAPER DETECTION SENS	Fig. 1→Fig. 2
SM	PCB-MAIN	⑬⑰	STEP MOTOR	Fig. 1→Fig. 5
SP	PCB-MAIN	⑬⑰⑯⑳⑭⑮	PAIR SENS (PAPER DETECTION 1 SENS)	Fig. 1→Fig. 5→Fig. 3
SP	PCB-MAIN	⑬⑰⑯⑳⑭⑮	PAIR SENS (PAPER DETECTION 2 SENS)	Fig. 1→Fig. 5→Fig. 3
SR	PCB-MAIN	⑬⑰⑯	PCB-OPEN (PAPER DETECTION 2 SENS)	Fig. 1→Fig. 5
SR	PCB-MAIN	⑬⑰⑯	PCB-OPEN (DOOR DETECTION SENS)	Fig. 1→Fig. 5



EXPLODED VIEW

PARTS LIST

In order to expedide delovery of replacement part orders.
Specify : 1. Model number/Serial number
2. Part number and Description
3. Quantity
Unless full information is supplied, delay in execution of order will result.
* : Warranty return items (P500W only)
⚠ : Critical components

SYMBOL NO.	PARTS NO.	ADDRESS		PARTS NAME	DESCRIPTION
1	702B991O10	E-1		DOOR	
2	701A614O10	D-1		FRONT PANEL	
3	734D579O10	B-2		LEVER KNOB	
4	710A088O10	A-3		TOP PANEL	
5	590A540O10	C-4		REAR PANEL	
6	669D229O10	E-1		SCREW	M3X0.6 46LA005
7	669D425O20	A-2	B-3	SCREW	M4X0.7-8 NI
8	669D212O40	A-3	C-4	SCREW	D-3 L=10 83AF
9	☆	D-1	E-2	SCREW	M3X6
10	916B042O01	B-3		POWER UNIT	
* ⚠ 11	936B090O01	B-1		MAIN PCB ASSY	
12	669D229O90	B-2	B-3	SCREW	M3.0X4 46LA005
		C-2	C-3		
		D-2	E-3		
13	☆	B-2		PRINTER MECHA ASSY	
14	771D051O10	D-2	D-3	PAD	ABS GR-1000
		E-2	E-3		
15	☆	B-4		POWER SW LEVER	
16	734C025O10	C-3		LEVEL KNOB	
17	☆	C-4		SW LEVER	SE CC-C 20/20 T1.0
18	☆	C-3		LEVER BRACKET	SE CC-C 20/20 T1.2
19	☆	E-3		BOTTOM COVER	SE CC-C 20/20 T1.0
20	☆	D-3		BASE CHASSIS	
21	☆	B-1		SHIELD PLATE	
22	☆	B-1		TOP BARRIER	
23	☆	B-1		SUPPORT	
24	☆	C-3		SUPPORT	
25	669D220O20	A-1	A-2	SCREW	3X8 46LA005
		C-4	D-2		
26	☆	D-3	E-2	SCREW	3X6
		E-3			
27	540D124O10	B-2		LEAD CLAMPER	
28	☆	B-3		SCREW	M3X0.5-20
29	669D245O10	D-4		SCREW	M4X0.7-8
30	☆	D-4		TOOTHED WASHER	
31	442D111O10	D-3		EARTH TERMINAL	
32	☆	D-3		HEX NUT	
33	☆	D-3		TOOTED WASHER	
34	☆	A-1		EARTH JACK	
35	754C025O10	E-1		POWER BUTTON	
36	☆	E-1		POWER SPRING	
37	761C437O10	E-2		DOOR CATCH	
38	702C953O30	E-1		PANEL DOOR	
* ⚠ 39	936C099O01	C-2		FRONT 1 PCB ASSY	
* ⚠ 40	936C100O01	C-3		FRONT 2 PCB ASSY	
	☆: Not a stocked item				

PARTS LIST

In order to expedide delovery of replacement part orders.

Specify : 1. Model number/Serial number
2. Part number and Description
3. Quantity

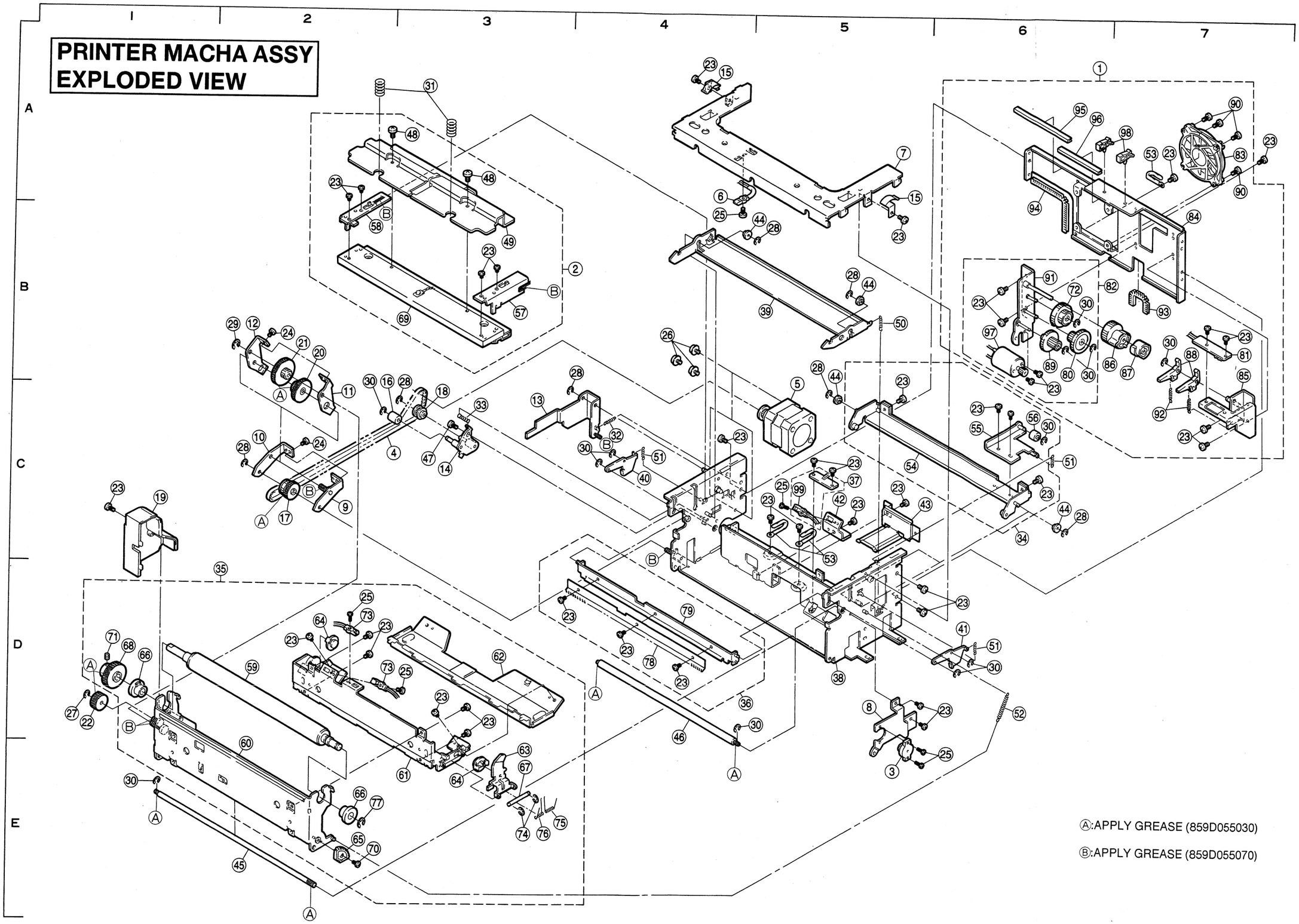
Unless full information is supplied, delay in execution of order will result.

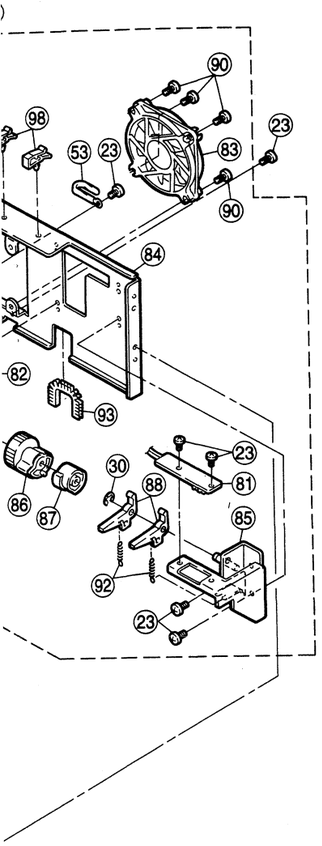
* : Warranty return items (P500W only)

⚠ : Critical components

SYMBOL NO.	PARTS NO.	ADDRESS		PARTS NAME	DESCRIPTION
1	702B991O10	E-1		DOOR	
2	701A614O10	D-1		FRONT PANEL	
3	734D579O10	B-2		LEVER KNOB	
4	710A088O10	A-3		TOP PANEL	
5	590A540O10	C-4		REAR PANEL	
6	669D229O10	E-1		SCREW	M3X0.6 46LA005
7	669D425O20	A-2	B-3	SCREW	M4X0.7-8 NI
8	669D212O40	A-3	C-4	SCREW	D-3 L=10 83AF
9	☆	D-1	E-2	SCREW	M3X6
10	916B042O01	B-3		POWER UNIT	
* ⚠ 11	936B090O01	B-1		MAIN PCB ASSY	
12	669D229O90	B-2	B-3	SCREW	M3.0X4 46LA005
		C-2	C-3		
		D-2	E-3		
13	☆	B-2		PRINTER MECHA ASSY	
14	771D051O10	D-2	D-3	PAD	ABS GR-1000
		E-2	E-3		
15	☆	B-4		POWER SW LEVER	
16	734C025O10	C-3		LEVEL KNOB	
17	☆	C-4		SW LEVER	SE CC-C 20/20 T1.0
18	☆	C-3		LEVER BRACKET	SE CC-C 20/20 T1.2
19	☆	E-3		BOTTOM COVER	SE CC-C 20/20 T1.0
20	☆	D-3		BASE CHASSIS	
21	☆	B-1		SHIELD PLATE	
22	☆	B-1		TOP BARRIER	
23	☆	B-1		SUPPORT	
24	☆	C-3		SUPPORT	
25	669D220O20	A-1	A-2	SCREW	3X8 46LA005
		C-4	D-2		
26	☆	D-3	E-2	SCREW	3X6
		E-3			
27	540D124O10	B-2		LEAD CLAMPER	
28	☆	B-3		SCREW	M3X0.5-20
29	669D245O10	D-4		SCREW	M4X0.7-8
30	☆	D-4		TOOTHED WASHER	
31	442D111O10	D-3		EARTH TERMINAL	
32	☆	D-3		HEX NUT	
33	☆	D-3		TOOTED WASHER	
34	☆	A-1		EARTH JACK	
35	754C025O10	E-1		POWER BUTTON	
36	☆	E-1		POWER SPRING	
37	761C437O10	E-2		DOOR CATCH	
38	702C953O30	E-1		PANEL DOOR	
* ⚠ 39	936C099O01	C-2		FRONT 1 PCB ASSY	
* ⚠ 40	936C100O01	C-3		FRONT 2 PCB ASSY	
	☆: Not a stocked item				

PRINTER MACHA ASSY EXPLODED VIEW





PARTS LIST

In order to expedide delovery of replacement part orders.

Specify : 1. Model number/Serial number
2. Part number and Description
3. Quantity

Unless full information is supplied, delay in execution of order will result.

* : Warranty return items (P500W only)

⚠ : Critical components

SYMBOL NO.	PARTS NO.	ADDRESS		PARTS NAME	DESCRIPTION
1	☆	A-6		REAR ASSY	
2	☆	B-4		HEAD ASSY	
3	642C207O20	E-5		DAMPER	
4	521C009O10	C-3		BELT	
5	288P163O10	B-5		STEP MOTOR	
6	243C212O10	A-4		PAPER DETECTION SENS	
7	☆	A-5		UPPER PLATE	
8	☆	D-5		DAMPER HOLDER	
9	☆	C-2		GEAR HOLDER (OB)	
10	☆	C-2		GEAR HPLDER (OT)	
11	☆	C-2		GEAR HPLDER (IB)	
12	☆	B-2		GEAR HPLDER (IT)	
13	☆	C-3		OPEN LEVER	
14	☆	C-3		TENSION PLATE	
15	☆	A-4	A-5	EARTH PLATE	
16	☆	B-2		TIMING ROLLER	
17	621C523O10	C-2		PULLEY GEAR	
18	621C524O10	B-3		PULLEY	
19	☆	C-1		GEAR COVER	
20	621C569O10	B-2		GEAR (A)	
21	630C153O10	B-2		GEAR (B)	
22	630C154O10	D-1		GEAR (C)	
23	☆	A-2	A-4	SCREW	M3X0.5-4
		A-7	B-3		
		B-5	B-6		
		B-7	C-1		
		C-4	C-5		
		C-6	C-7		
		D-2	D-3		
		D-4	D-6		
24	☆	B-2	C-2	SCREW	M2.6X0.45-3
25	669D199O60	A-4	C-5	SCREW	M2X0.4 L=4
		D-2	D-3		
		D-6			
26	669D204O30	B-4		SCREW	M3X0.5-5
27	552C007O40	D-1		CUT WASHER	3.0X5.4-0.5
28	685C002O60	B-3	B-4	RETAINING RING	E-3
		B-5	C-2		
		C-6			
29	685C002O70	B-2		RETAINING RING	E-4
30	685C002O40	B-6	B-2	RETAINING RING	E-2
		B-7	C-4		
		C-6	D-5		
		D-6	E-1		
31	572D681O10	A-3		SPRING (A)	SUS 304
32	572D040O10	C-4		FE ARM SPRING	SUS 304
33	572D878O10	C-3		TENSION SPRING	SUS 304
34	☆	C-6		UP LEVER ASSY	
35	☆	D-2		PAPER HOLDER ASSY	
36	☆	D-4		CUTTER ASSY	
* ⚠ 37	936D068O01	C-5		OPEN PCB ASSY	
38	☆	D-5		FRAME	
39	☆	B-5		LOCK LEVER	
40	596C333O10	C-4		CUTTER LEVER	
41	☆	D-6		CUTTER LEVER	
42	☆	C-5		SENSOR PLATE	
43	☆	C-6		SHIELD (C)	
44	☆	A-5	B-5	BUSH	
		C-6			
45	☆	E-2		DOOR SHAFT	
46	☆	D-4		GUIDE SHAFT	
47	☆	C-3		SCREW	M3X0.5-5
48	☆	A-3		SCREW	M3X0.5-6
49	☆	B-3		RADIATOR	
50	☆	B-5		LOCK SPRING	
51	572D040O10	C-4	C-6	FE ARM SPRING	
		D-6			
52	☆	D-6		DOOR SPRING	
53	☆	A-7	C-5	LEAD CLAMPER	
54	☆	C-5		UP LEVER UNIT	
55	☆	C-6		UP LEVER STAY	
56	☆	C-6		HEAD UP ROLLER	
57	☆	B-3		HEAD HOLDER (RIGHT)	
58	☆	B-2		HEAD HOLDER (LEFT)	
59	522C101O10	D-2		PLATEN ROLLER	
60	☆	D-2		PAPER HOLDER	
61	☆	E-3		PAPER BRACKET	
62	☆	D-3		LOWER BRACKET	
63	☆	E-3		CORE LEVER	
64	621D745O10	D-2	E-3	PAPER CORE	
65	596D408O10	E-2		DAMPER GEAR	
66	622D572O10	D-1	E-2	PLATEN BUSH	
67	☆	E-3		LEVER SHAFT	
68	630C152O10	D-1		PLATEN GEAR	
69	460P169O10	B-3		HEAD UNIT	
70	669D375O90	E-2		SCREW	M2.6X0.45 L=4
71	669D197O20	D-1		SCREW	M3X0.5 L=4
72	☆	B-6		LOADING GEAR (3)	
73	243C214O10	D-2		PAIR SENS	
74	685C002O30	E-3		RETAINING RING	E-1.5
75	☆	E-3		LEVER SPRING	
76	☆	E-3		LEVER SPRING	
77	685C002O90	E-2		RETAINING RING	E-6
78	596C330O10	D-4		CUTTER	
79	☆	D-4		CUTTER BRACKET	
80	☆	B-6		LOADING GEAR (2)	

:APPLY GREASE (859D055030)

:APPLY GREASE (859D055070)

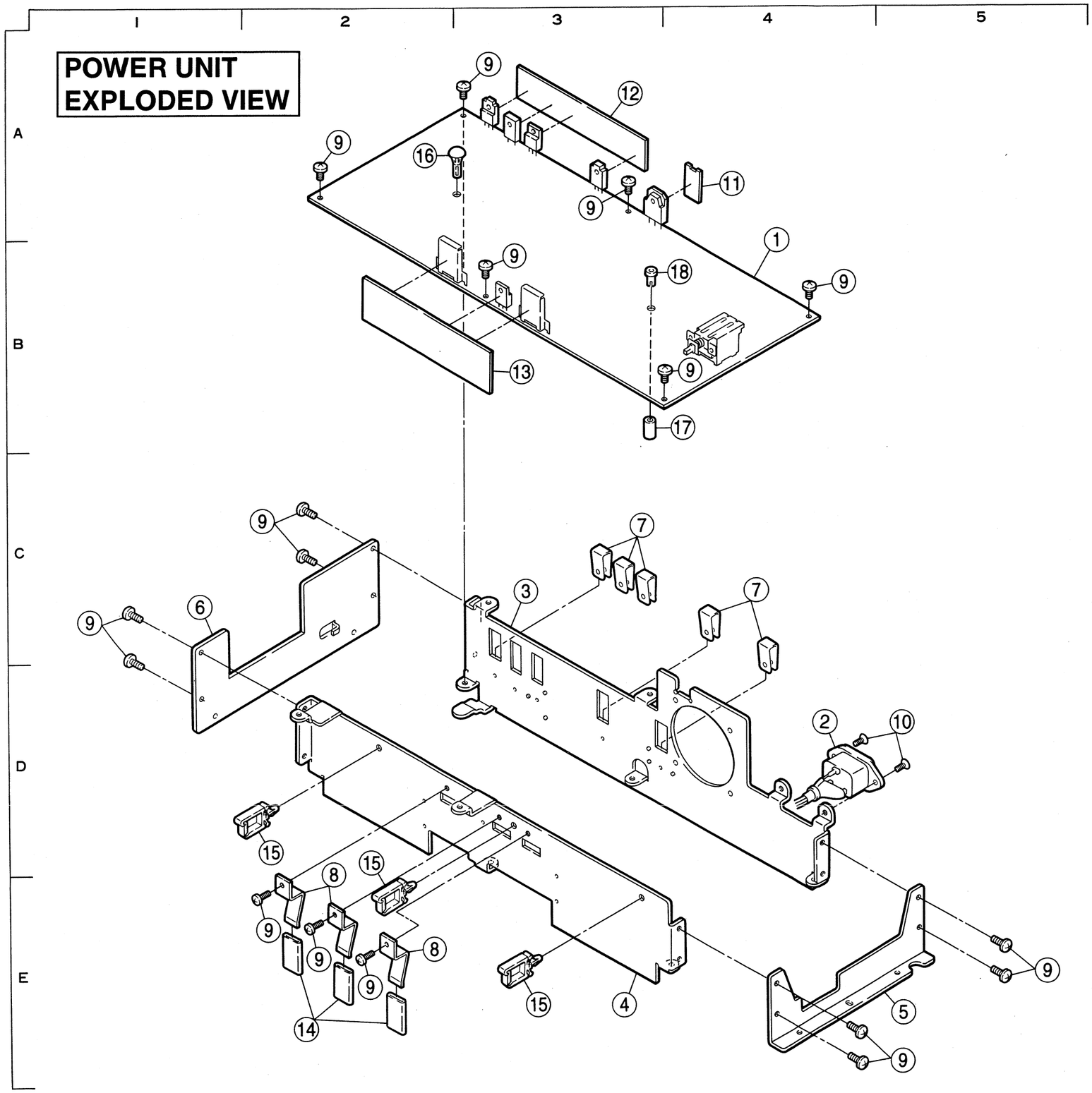
DESCRIPTION

SYMBOL NO.	PARTS NO.	ADDRESS		PARTS NAME	DESCRIPTION
34	☆	C-6		UP LEVER ASSY	
35	☆	D-2		PAPER HOLDER ASSY	
36	☆	D-4		CUTTER ASSY	
* ⚠ 37	936D068O01	C-5		OPEN PCB ASSY	
38	☆	D-5		FRAME	
39	☆	B-5		LOCK LEVER	
40	596C333O10	C-4		CUTTER LEVER	
41	☆	D-6		CUTTER LEVER	
42	☆	C-5		SENSOR PLATE	
43	☆	C-6		SHIELD (C)	
44	☆	A-5	B-5	BUSH	
		C-6			
45	☆	E-2		DOOR SHAFT	
46	☆	D-4		GUIDE SHAFT	
47	☆	C-3		SCREW	M3X0.5-5
48	☆	A-3		SCREW	M3X0.5-6
49	☆	B-3		RADIATOR	
50	☆	B-5		LOCK SPRING	
51	572D040O10	C-4	C-6	FE ARM SPRING	
		D-6			
52	☆	D-6		DOOR SPRING	
53	☆	A-7	C-5	LEAD CLAMPER	
54	☆	C-5		UP LEVER UNIT	
55	☆	C-6		UP LEVER STAY	
56	☆	C-6		HEAD UP ROLLER	
57	☆	B-3		HEAD HOLDER (RIGHT)	
58	☆	B-2		HEAD HOLDER (LEFT)	
59	522C101O10	D-2		PLATEN ROLLER	
60	☆	D-2		PAPER HOLDER	
61	☆	E-3		PAPER BRACKET	
62	☆	D-3		LOWER BRACKET	
63	☆	E-3		CORE LEVER	
64	621D745O10	D-2	E-3	PAPER CORE	
65	596D408O10	E-2		DAMPER GEAR	
66	622D572O10	D-1	E-2	PLATEN BUSH	
67	☆	E-3		LEVER SHAFT	
68	630C152O10	D-1		PLATEN GEAR	
69	460P169O10	B-3		HEAD UNIT	
70	669D375O90	E-2		SCREW	M2.6X0.45 L=4
71	669D197O20	D-1		SCREW	M3X0.5 L=4
72	☆	B-6		LOADING GEAR (3)	
73	243C214O10	D-2		PAIR SENS	
74	685C002O30	E-3		RETAINING RING	E-1.5
75	☆	E-3		LEVER SPRING	
76	☆	E-3		LEVER SPRING	
77	685C002O90	E-2		RETAINING RING	E-6
78	596C330O10	D-4		CUTTER	
79	☆	D-4		CUTTER BRACKET	
80	☆	B-6		LOADING GEAR (2)	

SYMBOL NO.	PARTS NO.	ADDRESS		PARTS NAME	DESCRIPTION
* ⚠ 81	936D069O01	B-7		MODE PCB ASSY	
82	956D097O01	B-7		GEAR ASSY	
83	288P171O10	A-7		COOLING FAN	
84	☆	A-7		REAR PANEL	
85	☆	B-7		SW BRACKET	
86	☆	B-7		HEAD CAM	
87	☆	B-7		MODE CAM	
88	621C518O10	B-7		SW LEVER	
89	☆	B-6		LOADING GEAR (1)	
90	☆	A-7		SCREW	M3X0.5-10
91	☆	B-6		MOTOR BRACET	
92	572D880O10	C-7		CAM SPRING	
93	☆	B-7		BUSH	
94	☆	A-6		SPACER	
95	☆	A-6		EDGE GUARD	
96	☆	A-6		EDGE GUARD	
97	☆	B-6		DC MOTOR ASSY	
98	☆	A-7		MINI CLAMP	
99	243C213O10	C-5		PAPER DETECTION SENS	

☆: Not a stocked item

POWER UNIT EXPLODED VIEW



PARTS LIST

In order to expedide delovery of replacement part orders.
Specify : 1. Model number/Serial number
2. Part number and Description
3. Quantity

Unless full information is supplied, delay in execution of order will result.

* : Warranty return items (P500W only)

⚠ : Critical components

SYMBOL NO.	PARTS NO.	ADDRESS		PARTS NAME	DESCRIPTI
* ⚠ 1	936B091O01	B-4		POWER PCB ASSY	
2	☆	D-4		POWER JACK ASSY	
3	☆	C-3		POWER RADIATOR (R)	
4	☆	E-3		POWER RADIATOR (F)	
5	☆	E-5		POWER PLATE	
6	☆	C-1		SIDE RADIATOR	
7	☆	C-3	C-4	IC HOLDER	
8	☆	E-2		IC HOLDER (2)	
9	669D220O20	A-2	A-3	SCREW	3X8 46LA005
		B-3	B-4		
		C-1	C-2		
		E-1	E-2		
		E-4	E-5		
10	☆	D-5		SCREW	3X8
11	☆	A-4		INSULATOR	
12	☆	A-3		INSULATOR	
13	☆	B-3		INSULATOR	
14	☆	E-2		SUMI TUBE	
15	☆	D-2	E-3	LEAD CLAMPER	
16	☆	A-2		SUPPORT	
17	☆	B-3		COLLAR	
18	☆	B-3		BUSH	

☆: Not a stocked item

nt part orders.
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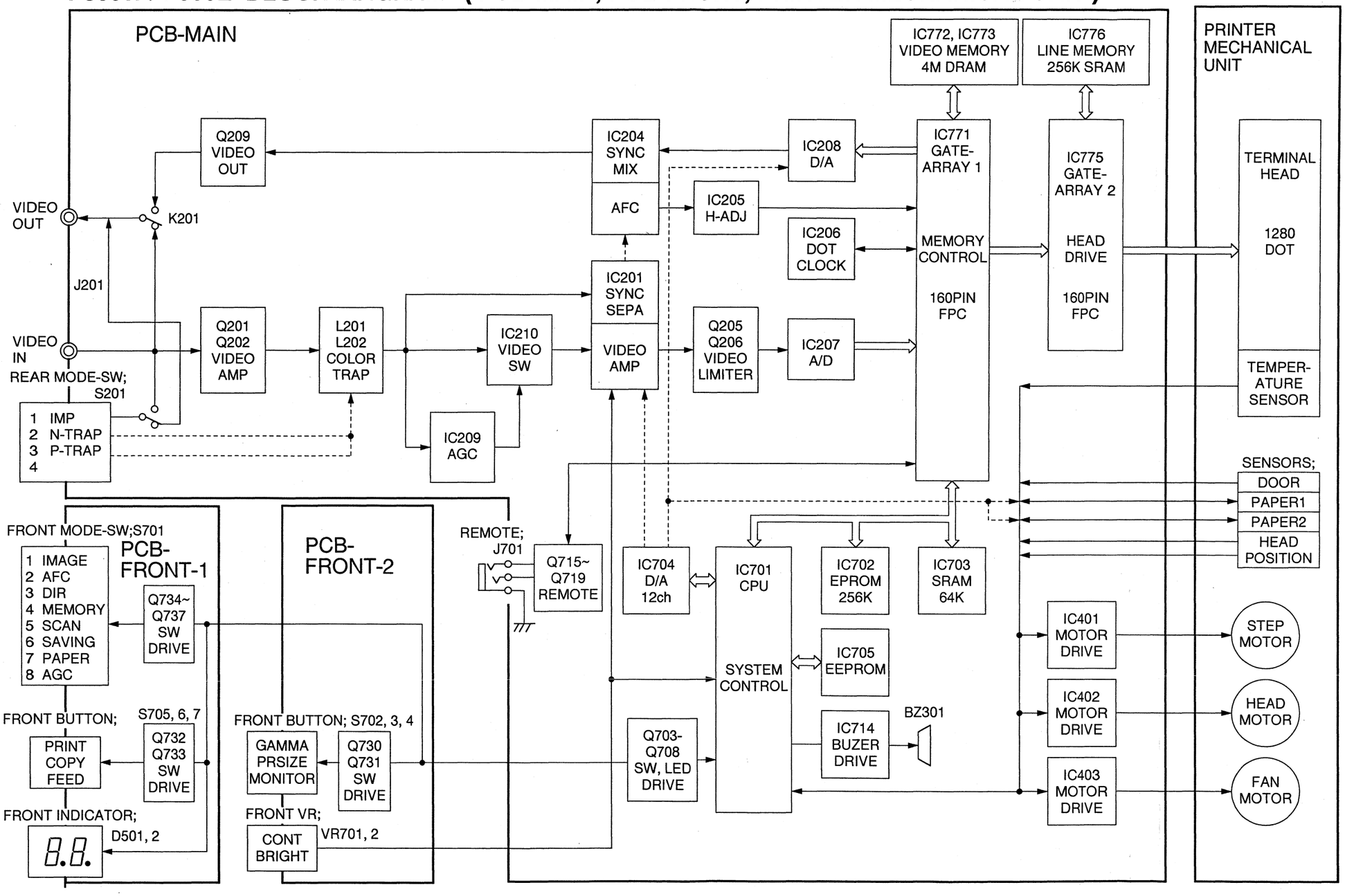
tion

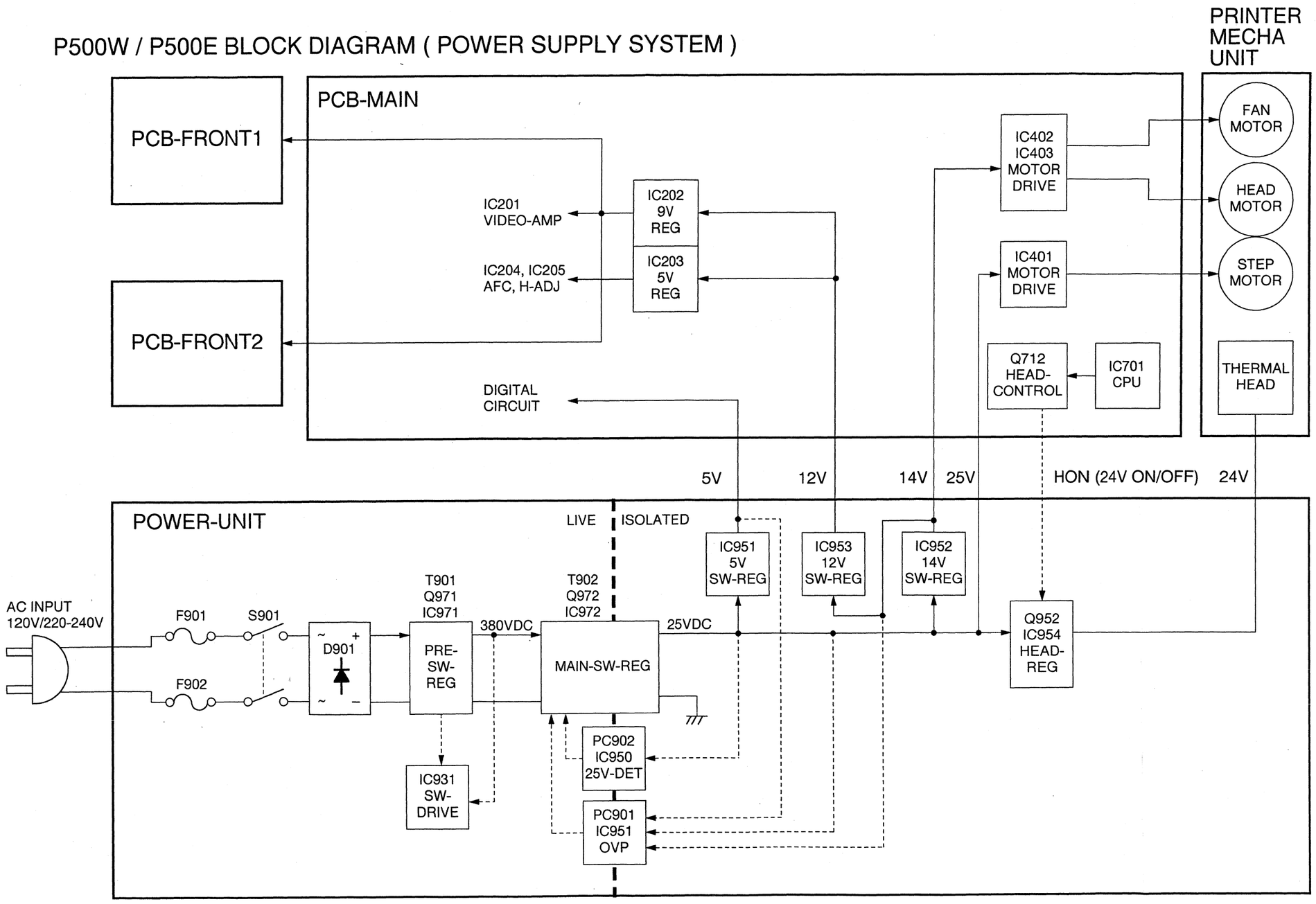
execution of order will result.
W only)

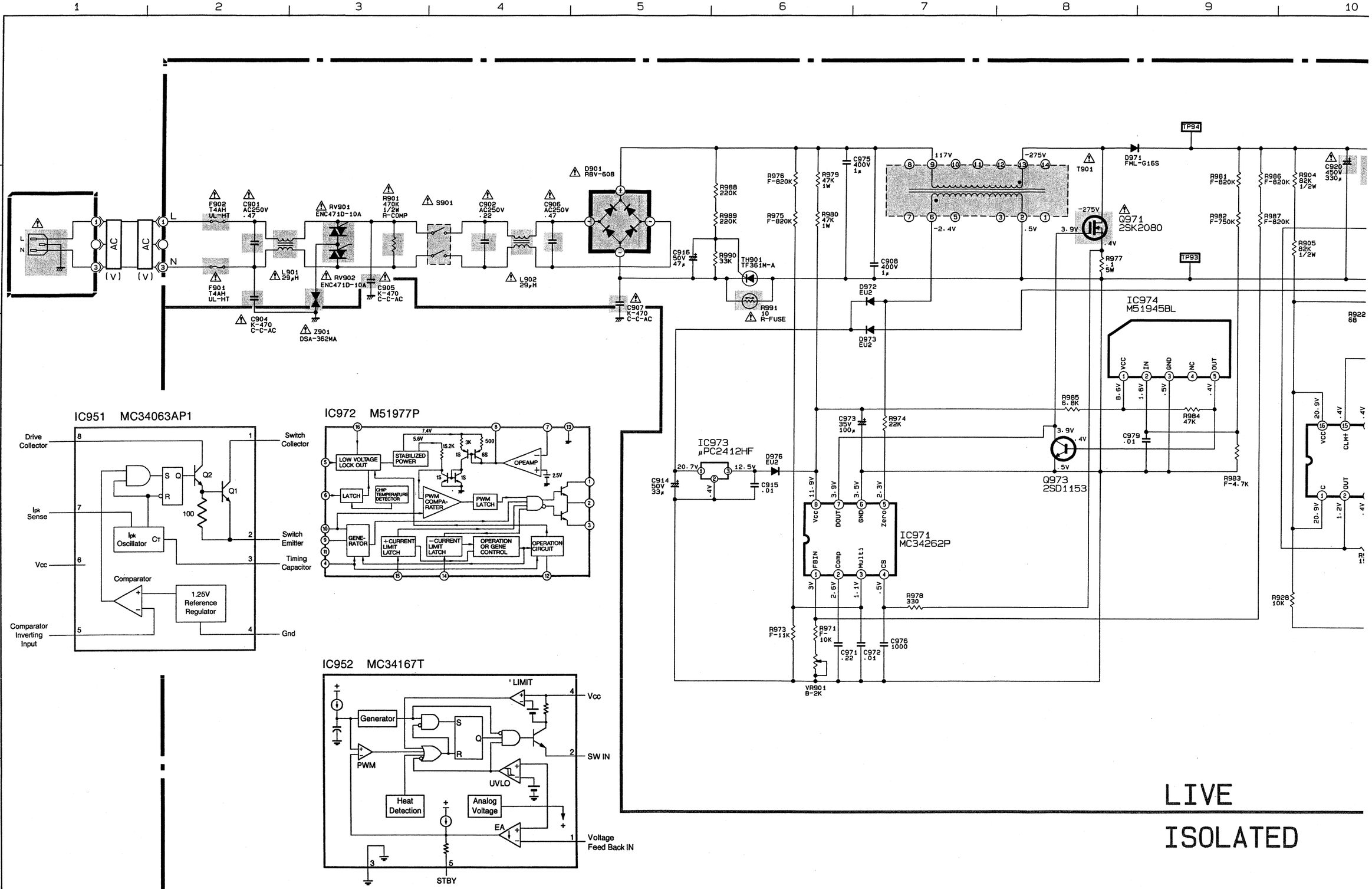
PARTS NAME	DESCRIPTION
POWER PCB ASSY	
POWER JACK ASSY	
POWER RADIATOR (R)	
POWER RADIATOR (F)	
POWER PLATE	
SIDE RADIATOR	
IC HOLDER	
IC HOLDER (2)	
SCREW	3X8 46LA005
SCREW	3X8
INSULATOR	
INSULATOR	
INSULATOR	
SUMI TUBE	
LEAD CLAMPER	
SUPPORT	
COLLAR	
BUSH	

P500W / P500E BLOCK DIAGRAM (PCB-MAIN, PCB-FRONT, PRINTER MECHANICAL UNIT)



P500W / P500E BLOCK DIAGRAM (POWER SUPPLY SYSTEM)




IC951 MC34063AP1
Drive Collector
Switch Collector
Ipk Sense
Switch Emitter
Timing Capacitor
Vcc
Comparator
Comparator Inverting Input
Gnd
1.25V Reference Regulator
Ipk Oscillator
IC972 M51977P
LOW VOLTAGE LOCK OUT
STABILIZED POWER
OPEAMP
LATCH
CHIP TEMPERATURE DETECTOR
PWM COMPA-RATER
PWM LATCH
GENE-RATOR
+CURRENT LIMIT LATCH
−CURRENT LIMIT LATCH
OPERATION OR GENE CONTROL
OPERATION CIRCUIT
IC952 MC34167T
Generator
PWM
UVLO
Heat Detection
Analog Voltage
EA
SW IN
Voltage Feed Back IN
STBY
IC973 μPC2412HF
IC974 M51945BL
IC971 MC34262P
Q971 2SK2080
Q973 2SD1153
T901
D971 FML-G16S
D972 EU2
D973 EU2
D976 EU2
D901 RBV-608
TH901 TF361M-A
Z901 DSA-362MA
S901
TP94
TP93
LIVE
ISOLATED

⚠ PCB-POWER

T901 T902

D971 FML-G16S

Q971 2SK2080

Q972 2SK1464

Q973 2SD1153

IC974 M51945BL (VCC IN GND NC OUT)

IC972 M51977 (VCC CLH+ CLH- GND CT T-OFF CF T ON / C OUT E VF ON/OFF OUP DET F/B)

PC902 TLP732 ERROR AMP

PC901 TLP732 OVER VOLTAGE DECETOR

D902 RU-1P

D904 EU2

D950 ESAC92-02

L903 CORE-FERIT

L950 HP-104Z

IC950 HA17431P

Q952 2SB883

IC954 M5237L

D930 1S2076A

IC951 MC34063AP1 (Drive (C) Ipk Vcc CI IN / Switch (C) Switch (E) Timing Capasitor GND)

D952 EK14V

L951 220µ

C977 16V 3300µ

R958 F-1.2K

D954 EQA02-32AC/ RD33EB2.B3.B4

D955 1S2076A

D957 EQA02-06AB/ RD5.6EB2.B3

D956 1S2076A

D958 1S2076A

D959 EQA02-15AB/ RD16EB1

IC952 MC34167T (STA VCC GND OUT F/B)

Q951 2SA933

IC953 µPC2412HF

L953 125µH SN-BD-5005

D953 D5S4M

R932 100 A-FUSE

TP91 TP92 TP93 TP94

+24V GND PH THERMAL-HEAD (E)

24V 14V 5V 12V PP PCB-MAIN (E)

PF POWER FAN (E)

LIVE

ISOLATED

P500W
P500E

③